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JOURNAL OF PROCEEDINGS AND ADDRESSES

OF THE

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

NATIONAL EDUCATION ASSOCIATION
OF THE UNITED STATES

Journal

OF

Proceedings and Addresses

OF THE

FORTY-EIGHTH ANNUAL MEETING

HELD AT

BOSTON, MASSACHUSETTS

JULY 2-8

1910

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NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

1857–1870

THE NATIONAL TEACHERS ASSOCIATION

Organized August 26, 1857, at Philadelphia, Pennsylvania.

PURPOSE—*To elevate the character and advance the interests of the profession of teaching, and to promote the cause of popular education in the United States.*

The name of the association was changed at Cleveland, Ohio, on August 15, 1870, to the "National Educational Association."

1870–1907

NATIONAL EDUCATIONAL ASSOCIATION

Incorporated under the laws of the District of Columbia, February 24, 1886, under the name, "National Education Association," which was changed to "National Educational Association," by certificate filed November 6, 1886.

1907–

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

Incorporated under a special act of Congress, approved June 30, 1906, to succeed the "National Educational Association." The charter was accepted and by-laws were adopted at the Fiftieth Anniversary Convention held July 10, 1907, at Los Angeles, California.

ACT OF INCORPORATION

AN ACT TO INCORPORATE THE NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled:

SECTION 1. That the following named persons, who are now officers and directors and trustees of the National Educational Association, a corporation organized in the year eighteen hundred and eighty-six, under the Act of General Incorporation of the Revised Statutes of the District of Columbia, viz.: Nathan C. Schaeffer, Eliphalet Oram Lyte, John W. Lansinger, of Pennsylvania; Isaac W. Hill, of Alabama; Arthur J. Matthews, of Arizona; John H. Hineman, George B. Cook, of Arkansas; Joseph O'Connor, Josiah L. Pickard, Arthur H. Chamberlain, of California; Aaron Gove, *Ezekiel H. Cook, Lewis C. Greenlee, of Colorado; Charles H. Keyes, of Connecticut; George W. Twitmyer, of Delaware; J. Ormond Wilson, *William T. Harris, Alexander T. Stuart, of the District of

* Deceased.

Columbia; Clem Hampton, of Florida; William M. Slaton, of Georgia; Frances Mann, of Idaho; J. Stanley Brown, *Albert G. Lane, Charles I. Parker, John W. Cook, Joshua Pike, Albert R. Taylor, Joseph A. Mercer, of Illinois; Nebraska Cropsey, Thomas A. Mott, of Indiana; John D. Benedict, of Indian Territory; John F. Riggs, Ashley V. Storm, of Iowa; John W. Spindler, Jasper N. Wilkinson, A. V. Jewett, Luther D. Whittemore, of Kansas; William Henry Bartholomew, of Kentucky; Warren Easton, of Louisiana; *John S. Locke, of Maine; M. Bates Stephens, of Maryland; Charles W. Eliot, *Mary H. Hunt, Henry T. Bailey, of Massachusetts; Hugh A. Graham, Charles G. White, William H. Elson, of Michigan; *William F. Phelps, Irwin Shepard, John A. Cranston, of Minnesota; Robert B. Fulton, of Mississippi; *F. Louis Soldan, James M. Greenwood, William J. Hawkins, of Missouri; Oscar J. Craig, of Montana; George L. Towne, of Nebraska; Joseph E. Stubbs, of Nevada; James E. Klock, of New Hampshire; James M. Green, John Enright, of New Jersey; Charles M. Light, of New Mexico; *James H. Canfield, Nicholas Murray Butler, William H. Maxwell, Charles R. Skinner, *Albert P. Marble, James C. Byrnes, of New York; James Y. Joyner, Julius Isaac Foust, of North Carolina; Pitt Gordon Knowlton, of North Dakota; Oscar T. Corson, Jacob A. Shawan, Wells L. Griswold, of Ohio; Edgar S. Vaught, Andrew R. Hickham, of Oklahoma; Charles Carroll Stratton, Edwin D. Ressler, of Oregon; Thomas W. Bicknell, Walter Ballou Jacobs, of Rhode Island; David B. Johnson, Robert P. Pell, of South Carolina; Moritz Adelbert Lange, of South Dakota; Eugene F. Turner, of Tennessee; Lloyd E. Wolfe, of Texas; David H. Christensen, of Utah; Henry O. Wheeler, Isaac Thomas, of Vermont; Joseph L. Jarman, of Virginia; Edward T. Mathes, of Washington; T. Marcellus Marshall, Lucy Robinson, of West Virginia; Lorenzo D. Harvey, of Wisconsin; Thomas T. Tynan, of Wyoming; Cassia Patton, of Alaska; Frank H. Ball, of Porto Rico; Arthur F. Griffiths, of Hawaii; C. H. Maxson, of the Philippine Islands, and such other persons as now are or may hereafter be associated with them as officers or members of said Association, are hereby incorporated and declared to be a body corporate of the District of Columbia by the name of the "National Education Association of the United States," and by that name shall be known and have perpetual succession with the powers, limitations, and restrictions herein contained.

SEC. 2. That the purpose and object of the said corporation shall be to elevate the character and advance the interests of the profession of teaching, and to promote the cause of education in the United States. This corporation shall include the National Council of Education and the following departments, and such others as may hereafter be created by organization or consolidation, to wit: the Departments, first, of Superintendence; second, of Normal Schools; third, of Elementary Education; fourth, of Higher Education; fifth, of Manual Training; sixth, of Art Education; seventh, of Kindergarten Education; eighth, of Music Education; ninth, of Secondary Education; tenth, of Business Education; eleventh, of Child-Study; twelfth, of Physical Education; thirteenth, of Natural Science Instruction; fourteenth, of School Administration; fifteenth, the Library Department; sixteenth, of Special Education; seventeenth, of Indian Education; the powers and duties and the number and names of these departments and of the National Council of Education may be changed or abolished at the pleasure of the corporation, as provided in its By-Laws.

SEC. 3. That the said corporation shall further have power to have and to use a common seal, and to alter and change the same at its pleasure; to sue or to be sued in any court of the United States, or other court of competent jurisdiction; to make by-laws not inconsistent with the provisions of this act or of the constitution of the United States; to take or receive, whether by gift, grant, devise, bequest, or purchase, any real or personal estate, and to hold, grant, convey, hire, or lease the same for the purposes of its incorporation; and to accept and administer any trust of real or personal estate for any educational purpose within the objects of the corporation.

SEC. 4. That all real property of the corporation within the District of Columbia,

* Deceased.

which shall be used by the corporation for the educational or other purposes of the corporation as aforesaid, other than the purposes of producing income, and all personal property and funds of the corporation held, used, or invested for educational purposes aforesaid, or to produce income to be used for such purposes, shall be exempt from taxation; *provided*, however, That this exemption shall not apply to any property of the corporation which shall not be used for, or the income of which shall not be applied to, the educational purposes of the corporation; and, *provided further*, That the corporation shall annually file, with the Commissioner of Education of the United States, a report in writing, stating in detail the property, real and personal, held by the corporation, and the expenditure or other use or disposition of the same, or the income thereof, during the preceding year.

SEC. 5. That the membership of the said corporation shall consist of three classes of members—viz., active, associate, and corresponding—whose qualifications, terms of membership, rights, and obligations shall be prescribed by the By-Laws of the corporation.

SEC. 6. That the officers of the said corporation shall be a President, twelve Vice-Presidents, a Secretary, a Treasurer, a Board of Directors, an Executive Committee, and a Board of Trustees.

The Board of Directors shall consist of a President, the First Vice-President, the Secretary, the Treasurer, the chairman of the Board of Trustees, and one additional member from each state, territory, or district, to be elected by the active members for the term of one year, or until their successors are chosen, and of all life directors of the National Educational Association. The United States Commissioner of Education, and all former Presidents of the said Association now living, and all future Presidents of the Association hereby incorporated, at the close of their respective terms of office, shall be members of the Board of Directors for life. The Board of Directors shall have power to fill all vacancies in their own body; shall have in charge the general interests of the corporation, excepting those herein intrusted to the Board of Trustees; and shall possess such other powers as shall be conferred upon them by the By-Laws of the corporation.

The Executive Committee shall consist of five members, as follows: the President of the Association, the First Vice-President, the Treasurer, the Chairman of the Board of Trustees, and a member of the Association, to be chosen annually by the Board of Directors, to serve one year. The said committee shall have authority to represent, and to act for, the Board of Directors in the intervals between the meetings of that body, to the extent of carrying out the legislation adopted by the Board of Directors under general directions as may be given by said board.

The Board of Trustees shall consist of four members, elected by the Board of Directors for the term of four years, and the President of the Association, who shall be a member *ex officio*, during his term of office. At the first meeting of the Board of Directors, held during the annual meeting of the Association at which they were elected, they shall elect one trustee for the term of four years. All vacancies occurring in said Board of Trustees, whether by resignation or otherwise, shall be filled by the Board of Directors for the unexpired term; and the absence of a trustee from two successive annual meetings of the board shall forfeit his membership.

SEC. 7. That the invested fund now known as the "Permanent Fund of the National Educational Association," when transferred to the corporation hereby created, shall be held by such corporation as a Permanent Fund and shall be in charge of the Board of Trustees, who shall provide for the safekeeping and investment of such fund, and of all other funds which the corporation may receive by donation, bequest, or devise. No part of the principal of such Permanent Fund or its accretions shall be expended, except by a two-thirds vote of the active members of the Association present at any annual meeting, upon the recommendation of the Board of Trustees, after such recommendation has been approved by vote of the Board of Directors, and after printed notice of the proposed expenditure has been mailed to all active members of the Association. The income of the Permanent Fund shall be used only to meet the cost of maintaining the organization of the

Association and of publishing its annual volume of *Proceedings*, unless the terms of the donation, bequest, or devise shall otherwise specify, or the Board of Directors shall otherwise order. It shall also be the duty of the Board of Trustees to issue orders on the Treasurer for the payment of all bills approved by the Board of Directors, or by the President and Secretary of the Association acting under the authority of the Board of Directors. When practicable, the Board of Trustees shall invest, as part of the Permanent Fund, all surplus funds exceeding five hundred dollars that shall remain in the hands of the Treasurer after paying the expenses of the Association for the previous year, and providing for the fixed expenses and for all appropriations made by the Board of Directors for the ensuing year.

The Board of Trustees shall elect the Secretary of the Association, who shall also be secretary of the Executive Committee, and shall fix the compensation and the term of his office for a period not to exceed four years.

SEC. 8. That the principal office of the said corporation shall be in the city of Washington, District of Columbia, provided that the meetings of the corporation, its officers, committees, and departments, may be held, and that its business may be transacted, and an office or offices may be maintained, elsewhere, within the United States, as may be determined, by the Board of Directors, or otherwise in accordance with the By-Laws.

SEC. 9. That the Charter, Constitution, and By-Laws of the National Educational Association shall continue in full force and effect until the charter granted by this act shall be accepted by such Association at the next annual meeting of the Association, and until new By-Laws shall be adopted; and that the present officers, directors, and trustees of said Association shall continue to hold office and perform their respective duties as such until the expiration of terms for which they were severally elected or appointed, and until their successors are elected. That at such annual meeting the active members of the National Educational Association, then present, may organize and proceed to accept the charter granted by this Act and adopt By-Laws, to elect officers to succeed those whose terms have expired or are about to expire, and generally to organize the "National Education Association of the United States;" and that the Board of Trustees of the corporation hereby incorporated shall thereupon, if the charter granted by this Act be accepted, receive, take over, and enter into possession, custody, and management of all property, real and personal, of the corporation heretofore known as the National Educational Association, incorporated as aforesaid, under the Revised Statutes of the District of Columbia and all its rights, contracts, claims, and property of every kind and nature whatsoever, and the several officers, directors, and trustees of such last-named Association, or any other person having charge of any of the securities, funds, books, or property thereof, real or personal, shall on demand deliver the same to the proper officers, directors, or trustees of the corporation hereby created. *Provided*, That a verified certificate executed by the presiding officer and secretary of such annual meeting, showing the acceptance of the charter granted by this act by the National Educational Association shall be legal evidence of the fact, when filed with the Recorder of Deeds of the District of Columbia; and, *provided further*, That in the event of the failure of the Association to accept the charter granted by this act at said annual meeting then the charter of the National Educational Association and its corporate existence shall be, and are hereby extended until the thirty-first day of July, nineteen hundred and eight, and at any time before said date its charter may be extended in the manner and form provided by the general corporation law of the District of Columbia.

SEC. 10. That the rights of creditors of the said existing corporation, known as the National Educational Association, shall not in any manner be impaired by the passage of this act, or the transfer of the property heretofore mentioned, nor shall any liability or obligation, or the payment of any sum due or to become due, or any claim or demand, in any manner, or for any cause existing against the said existing corporation, be released or impaired; and the corporation hereby incorporated is declared to succeed to the obligations and liabilities, and to be held liable to pay and discharge all of the debts, liabilities,

and contracts of the said corporation so existing, to the same effect as if such new corporation had itself incurred the obligation or liability to pay such debt or damages, and no action or proceeding before any court or tribunal shall be deemed to have abated or been discontinued by reason of this act.

SEC. 11. That Congress may from time to time alter, repeal, or modify this act of incorporation, but no contract or individual right made or acquired shall thereby be divested or impaired.

Approved June 30, 1906.

Accepted and adopted as the Constitution of the National Education Association of the United States by the active members of the National Educational Association in annual session at Los Angeles, Cal., July 10, 1907.

BY-LAWS

(Adopted at meeting of active members held in Los Angeles, Cal., July 10, 1907.)

ARTICLE I—MEMBERSHIP

ACTIVE MEMBERS

SECTION 1. Teachers and all who are actively associated with the management of educational institutions, including libraries and educational publications, may become active members.

SEC. 2. Any eligible person may become an active member upon application indorsed by two active members, and the payment of an enrollment fee of two dollars and the annual dues for the current year.

SEC. 3. Active members only shall have the right to vote and to hold office in the Association, in the National Council of Education, or in the several departments.

SEC. 4. All active members shall pay annual dues of two dollars, and shall be entitled to the volume of *Proceedings* without "coupon" or other conditions.

SEC. 5. The annual membership fee shall be payable at the time of the annual convention, or by remittance to the Secretary before September first of each year.

SEC. 6. Any active member may discontinue membership by giving written notice to the Secretary before September first in any year, and may restore the same only on payment of the enrollment fee of two dollars and the annual dues for the current year. A written application for active membership shall constitute an agreement to continue such membership and pay annual dues, unless written notice of discontinuance is sent to the Secretary before September first of the fiscal year for which such discontinuance shall apply.

CORRESPONDING MEMBERS

SEC. 7. Eminent educators not residing in America may be elected by the Board of Directors to be corresponding members. The number of corresponding members shall at no time exceed fifty.

SEC. 8. Corresponding members shall be entitled to the volume of *Proceedings* without the payment of fees or other conditions.

ASSOCIATE MEMBERS

SEC. 9. Any person on paying an annual membership of two dollars may become an associate member.

SEC. 10. Associate members may receive the volume of *Proceedings* in accordance with the usual "coupon" conditions, as printed on the membership certificate.

LIFE MEMBERS

SEC. 11. All life members and life directors shall be denominated active members and shall enjoy all the powers and privileges of such members without the payment of annual dues.

ROLL OF MEMBERS

SEC. 12. The names of active, life, and corresponding members only shall be printed in the annual *Yearbook*, with their respective educational titles, offices, and addresses, and the list shall be revised annually by the Secretary of the Association.

ARTICLE II—OFFICERS AND COMMITTEES

SECTION 1. The President, Vice-Presidents, Directors, and Treasurer shall be chosen by the active members of the Association by ballot, unless otherwise ordered, on the third day of each annual session, a majority of the votes cast being necessary to a choice. They shall continue in office until the close of the annual session subsequent to their election and until their successors are chosen, except as hereinafter provided.

COMMITTEE ON RESOLUTIONS

SEC. 2. At the first session of each annual meeting of the Association the President shall appoint a Committee on Resolutions.

COMMITTEE ON NOMINATIONS

SEC. 3. At the third session of each annual meeting of the Association there shall be appointed by the President a Committee on Nominations, consisting of one member from each state and territory represented. Such a committee shall be appointed by the President on the nomination of a majority of the active members from such state or territory present at the meeting called for the purpose of making such nomination; *provided*, however, That such appointment shall be made by the President without such nomination, when the active members in attendance from any state or territory shall fail to make a nomination.

SEC. 4. The meetings of the active members of the several states to nominate members of the nominating committee shall be held at 5:30 P. M. on the first day of the annual meeting of the Association, at such places as shall be announced in the general program.

ARTICLE III—DUTIES OF OFFICERS

THE PRESIDENT

SECTION 1. The President shall preside at all meetings of the Association and of the Board of Directors, and shall perform the duties usually devolving upon a presiding officer. In his absence the first Vice-President in order, who is present, shall preside; and in the absence of all the Vice-Presidents, a *pro tempore* chairman shall be appointed on nomination, the Secretary putting the question.

THE SECRETARY

SEC. 2. The Secretary shall keep a full and accurate report of the proceedings of the general meetings of the Association and of all meetings of the Board of Directors, and shall conduct such correspondence and transact such other business of the Association as the directors or Executive Committee may assign, and shall have his records present at all meetings of the Association and the Board of Directors.

THE TREASURER

SEC. 3. The Treasurer shall receive, and under the direction of the Board of Trustees hold in safekeeping, the current income of the Association; shall expend the same only upon order of said board; shall keep an exact account of his receipts and expenditures, with vouchers for the latter; which accounts, ending the first day of July in each year, he shall render to the Board of Trustees and, when approved by said board, he shall report to the Board of Directors. The Treasurer shall give such bond for the faithful discharge of his duties as may be required by the Board of Trustees; and he shall continue in office until the first meeting of the Board of Directors held prior to the annual meeting of the Association next succeeding that at which he is elected, and until his successor has been elected and has qualified.

AUDITOR OF ACCOUNTS

SEC. 4. It shall be the duty of the President, Secretary, and Treasurer of the Association to appoint annually some competent person to examine the securities of the Permanent Fund held by the Board of Trustees, and his certificate, showing the condition of the said fund, shall be attached to the annual report of the Board of Trustees.

CERTIFICATION OF BILLS

SEC. 5. The President and Secretary shall certify to the Board of Trustees all bills approved by the Board of Directors.

ARTICLE IV—THE BOARD OF DIRECTORS

SECTION 1. The Board of Directors shall hold its regular annual meeting at the place of the annual convention, and not less than two hours before the assembling of the Association.

SEC. 2. Special meetings may be held at such other times and places as the board or the President shall determine.

SEC. 3. Each new board shall organize at the session of its election.

ARTICLE V—THE NATIONAL COUNCIL OF EDUCATION

OBJECTS AND DUTIES

SECTION 1. The National Council of Education shall have for its object the consideration and discussion of educational questions of public and professional interest; the proposal to the Board of Directors, from time to time, of suitable subjects for investigation and research, and the recommendation of the amount of appropriations that should be made for such purposes; the appointment and general supervision of such special committees of investigation and research as may be provided for and authorized by the Board of Directors of the Association; the consideration, discussion, and recommendation to the Board of Directors for disposition of all reports by such special committees of research as may have been appointed on its recommendation or by its authority; the annual preparation and presentation to the Association at its annual convention of a report on "Educational Progress during the Past Year;" and in other ways shall use its best efforts to further the objects of the Association and to promote the cause of education in general.

MEMBERSHIP OF THE COUNCIL

SEC. 2.* The Council shall consist of one hundred and twenty members, selected from the membership of the Association. Any member of the Association identified with educational work is eligible to membership in the Council.

SEC. 3.* The Board of Directors shall annually elect ten members, and the Council shall elect ten members, each member to serve for six years, or until his successor is elected. At the meeting of 1908 enough additional members shall be elected in the same manner to make the total number of members one hundred and twenty. The terms of the members so elected shall expire as follows: one-sixth in one year, one-sixth in two years, one-sixth in three years, one-sixth in four years, one-sixth in five years, one-sixth in six years.

SEC. 4. The annual election of members of the Council shall be held in connection with the annual meetings of the Association. If the Board of Directors shall fail, for any reason, to fill its quota of members annually, the vacancy or vacancies shall be filled by the Council.

SEC. 5. The absence of a member from two consecutive annual meetings of the Council shall be considered equivalent to resignation of membership, and the Council shall fill vacancies caused by absence from the Council as herein defined, as well as vacancies

* As amended at meeting of active members held at Cleveland, Ohio, July 1, 1908.

caused by death or resignation, for the unexpired term. All persons who have belonged to the Council shall, on the expiration of their membership, become honorary members, with the privilege of attending its regular sessions and participating in its discussions. No state shall be represented in the Council by more than eight members.

BY-LAWS OF THE COUNCIL

SEC. 6. The Council may establish by-laws for its government not inconsistent with the Act of Incorporation or with the By-Laws of the Association, provided such by-laws shall be submitted to, and approved by, the Board of Directors of the Association before they shall become operative.

ARTICLE VI—DEPARTMENTS

SECTION 1. A department shall consist of those members of the Association who are especially interested in the consideration of a particular group of educational problems. Each department shall be administered by a president, vice-president, secretary, and such other officers as it shall deem necessary to conduct its affairs.

SEC. 2. Each department shall hold its annual meeting at the time of the annual convention of the Association, except the Department of Superintendence, which may hold its annual meeting in February of each year, or at such other time as may be determined by the officers of said department.

SEC. 3. The objects of the annual department meetings shall be the discussion of questions pertaining to their respective fields of educational work. The programs of these meetings shall be organized and conducted by the respective presidents, in conference with, and under the general direction of, the President of the Association. Each department shall be limited to two sessions, with formal programs, at the time of the annual convention, except that a third session for business or informal round-table conference may be held at the discretion of the department officers.

SEC. 4. Upon the written request of twenty active members of the Association for permission to establish a new department, the Board of Directors may grant such permission. Such new department shall in all respects be entitled to the same rights and privileges as the departments named in the Act of Incorporation.

ARTICLE VII—MEETINGS

SECTION 1. The annual meeting of the Association shall be held at such time and place as shall be determined by the Board of Directors.

SEC. 2. Special meetings may be called by the President at the request of five directors.

SEC. 3. Any department of the Association may hold a special meeting at such time and place as by its own regulations it shall appoint.

SEC. 4. No paper, lecture, or address shall be read before the Association or any of its departments, in the absence of its author, nor shall any such paper, lecture, or address be published in the volume of *Proceedings*, without the consent of the Association, upon the approval of the Executive Committee.

ARTICLE VIII—AMENDMENTS

SECTION 1. These by-laws may be altered or amended at any annual meeting by the unanimous vote of the members present; or by a two-thirds vote of the members present, provided that the substance of the alteration or amendment has been proposed in writing at a previous annual meeting.

NATIONAL EDUCATIONAL ASSOCIATION

NOW KNOWN AS THE

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

CERTIFICATE

of Acceptance of Charter and Adoption of By-Laws under Act of Congress approved June 30, 1906.

We, the undersigned, Nathan C. Schaeffer, the presiding officer, and Irwin Shepard, the secretary of the meeting of the National Educational Association held at Los Angeles, California, on the 10th day of July, 1907, said meeting being the annual meeting of the Association held next after the passage of an Act of Congress entitled "An Act to Incorporate the National Education Association of the United States;"

Do hereby certify, that at said meeting held pursuant to due notice, a quorum being present, the said Association adopted resolutions of which true copies are hereto attached, and accepted the Charter of the National Education Association of the United States, granted by said Act of Congress, and adopted by-laws as provided in said act and elected officers; and the undersigned pursuant to said resolutions

Do hereby certify that the National Education Association of the United States has duly accepted said Charter granted by said Act of Congress, and adopted by-laws, and is the lawful successor to the National Educational Association.

In witness whereof, we have hereunto signed our names this 20th day of August, 1907.

NATHAN C. SCHAEFFER, *Presiding Officer*
IRWIN SHEPARD, *Secretary*

VERIFICATION

RESOLUTIONS ADOPTED BY THE ACTIVE MEMBERS, JULY 10, 1907

1. *Resolved*, That the National Educational Association hereby accepts the Charter granted by an act of Congress entitled "An Act to Incorporate the National Education Association of the United States," passed June 30, 1906, and that the President and Secretary of this meeting be authorized and directed to execute and file with the Recorder of Deeds of the District of Columbia a verified certificate showing the acceptance by the Association of the Charter granted by said act.

2. *Resolved*, That the proposed by-laws of which notice was given at the annual meeting of the Association held on July 6, 1905, which are printed in full in the journal of said meeting, be and the same are hereby adopted to take effect immediately.

3. *Resolved*, That the Association adopt as its corporate seal a circle containing the title "National Education Association of the United States," and the dates "1857–1907."

4. *Resolved*, That the Association do now proceed to elect officers, and to organize under the Charter granted by the Act of Congress.

Filed in the office of the Recorder of Deeds of the District of Columbia, September 4, 1907.

CALENDAR OF MEETINGS

NATIONAL TEACHERS ASSOCIATION

1857—PHILADELPHIA, PA. (Organized)
James L. Enos, Chairman.
W. E. Sheldon, Secretary.

1858—CINCINNATI, OHIO
Z. Richards, President.
J. W. Bulkley, Secretary.
A. J. Rickoff, Treasurer.

1859—WASHINGTON, D.C.
A. J. Rickoff, President.
J. W. Bulkley, Secretary.
C. S. Pennell, Treasurer.

1860—BUFFALO, N.Y.
J. W. Bulkley, President.
Z. Richards, Secretary.
O. C. Wight, Treasurer.

1861, 1862—No session.

1863—CHICAGO, ILL.
John D. Philbrick, President.
James Cruikshank, Secretary.
O. C. Wight, Treasurer.

1864—OGDENSBURG, N.Y.
W. H. Wells, President.
David N. Camp, Secretary.
Z. Richards, Treasurer.

1865—HARRISBURG, PA.
S. S. Greenleaf, President.
W. E. Sheldon, Secretary.
Z. Richards, Treasurer.

1866—INDIANAPOLIS, IND.
J. P. Wickersham, President.
S. H. White, Secretary.
S. P. Bates, Treasurer.

1867—No session.

1868—NASHVILLE, TENN.
J. M. Gregory, President.
L. Van Bokkelen, Secretary.
James Cruikshank, Treasurer.

1869—TRENTON, N.J.
L. Van Bokkelen, President.
W. E. Crosby, Secretary.
A. L. Barber, Treasurer.

1870—CLEVELAND, OHIO
Daniel B. Hagar, President.
A. P. Marble, Secretary.
W. E. Crosby, Treasurer.

NAME CHANGED TO

NATIONAL EDUCATIONAL ASSOCIATION

1871—ST. LOUIS, MO.
J. L. Pickard, President.
W. E. Crosby, Secretary.
John Hancock, Treasurer.

1872—BOSTON, MASS.
E. E. White, President.
S. H. White, Secretary.
John Hancock, Treasurer.

1873—ELMIRA, N.Y
B. G. Northrop, President.
S. H. White, Secretary.
John Hancock, Treasurer.

1874—DETROIT MICH.
S. H. White, President.
A. P. Marble, Secretary.
John Hancock, Treasurer.

1875—MINNEAPOLIS, MINN.
W. T. Harris, President.
M. R. Abbott, Secretary.
A. P. Marble, Treasurer.

1876—BALTIMORE, MD.
W. F. Phelps, President.
W. D. Henkle, Secretary.
A. P. Marble, Treasurer.

1877—LOUISVILLE, KY.
M. A. Newell, President.
W. D. Henkle, Secretary
J. Ormond Wilson, Treasurer.

1878—No session.

1879—PHILADELPHIA, PA.
John Hancock, President.
W. D. Henkle, Secretary.
J. Ormond Wilson, Treasurer.

1880—CHAUTAUQUA, N.Y.
J. Ormond Wilson, President.
W. D. Henkle, Secretary.
E. T. Tappan, Treasurer.

1881—ATLANTA, GA.
James H. Smart, President.
W. D. Henkle, Secretary.
E. T. Tappan, Treasurer

1882—SARATOGA SPRINGS, N.Y.
G. J. Orr, President.
W. E. Sheldon, Secretary.
H. S. Tarbell, Treasurer.

1883—SARATOGA SPRINGS, N.Y.
E. T. Tappan, President.
W. E. Sheldon, Secretary.
N. A. Calkins, Treasurer.

1884—MADISON, WIS.
THOMAS W. BICKNELL, President.
H. S. TARBELL, Secretary.
N. A. CALKINS, Treasurer.

1885—SARATOGA SPRINGS, N.Y.
F. LOUIS SOLDAN, President.
W. E. SHELDON, Secretary.
N. A. CALKINS, Treasurer.

1886—TOPEKA, KAN.
N. A. CALKINS, President.
W. E. SHELDON, Secretary.
E. C. HEWETT, Treasurer.

1887—CHICAGO, ILL.
W. E. SHELDON, President.
J. H. CANFIELD, Secretary.
E. C. HEWETT, Treasurer.

1888—SAN FRANCISCO, CAL.
AARON GOVE, President.
J. H. CANFIELD, Secretary.
E. C. HEWETT, Treasurer.

1889—NASHVILLE, TENN.
ALBERT P. MARBLE, President.
J. H. CANFIELD, Secretary.
E. C. HEWETT, Treasurer.

1890—ST. PAUL, MINN.
J. H. CANFIELD, President.
W. R. GARRETT, Secretary.
E. C. HEWETT, Treasurer.

1891—TORONTO, ONT
W. R. GARRETT, President.
E. H. COOK, Secretary.
J. M. GREENWOOD, Treasurer.

1892—SARATOGA SPRINGS, N.Y.
E. H. COOK, President.
R. W. STEVENSON, Secretary.
J. M. GREENWOOD, Treasurer.

1893—CHICAGO, ILL.
(International Congress of Education.)
ALBERT G. LANE, President
IRWIN SHEPARD, Secretary.
J. M GREENWOOD, Treasurer.

1894—ASBURY PARK, N.J.
ALBERT G. LANE, President.
IRWIN SHEPARD, Secretary.
J. M. GREENWOOD, Treasurer.

1895—DENVER, COLO.
NICHOLAS MURRAY BUTLER, President
IRWIN SHEPARD, Secretary.
I. C. MCNEILL, Treasurer.

1896—BUFFALO, N. Y.
NEWTON C. DOUGHERTY, President.
IRWIN SHEPARD, Secretary.
I. C. MCNEILL, Treasurer.

1897—MILWAUKEE, WIS.
CHARLES R. SKINNER, President.
IRWIN SHEPARD, Secretary.
I. C. MCNEILL, Treasurer.

1898—WASHINGTON, D.C.
J. M. GREENWOOD, President.
IRWIN SHEPARD, Secretary.
I. C. MCNEILL, Treasurer.

1899—LOS ANGELES, CAL.
E. ORAM LYTE, President.
IRWIN SHEPARD, Secretary.
I. C. MCNEILL, Treasurer.

1900—CHARLESTON, S.C.
OSCAR T. CORSON, President.
IRWIN SHEPARD, Secretary.
CARROLL G. PEARSE, Treasurer.

1901—DETROIT, MICH.
JAMES M. GREEN, President.
IRWIN SHEPARD, Secretary.
L. C. GREENLEE, Treasurer.

1902—MINNEAPOLIS, MINN.
WILLIAM M. BEARDSHEAR, President.
IRWIN SHEPARD, Secretary.
CHARLES H. KEYES, Treasurer.

1903—BOSTON, MASS.
CHARLES W. ELIOT, President.
IRWIN SHEPARD, Secretary.
W. M. DAVIDSON, Treasurer.

1904—ST. LOUIS, MO.
JOHN W. COOK, President.
IRWIN SHEPARD, Secretary.
MCHENRY RHOADS, Treasurer.

1905—ASBURY PARK AND OCEAN GROVE, N.J.
WILLIAM H MAXWELL, President.
IRWIN SHEPARD, Secretary.
JAMES W. CRABTREE, Treasurer.

1906—No session.

1907—LOS ANGELES, CAL.
NATHAN C. SCHAEFFER, President.
IRWIN SHEPARD, Secretary.
J. N. WILKINSON, Treasurer.

NAME CHANGED TO

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

1908—CLEVELAND, OHIO
EDWIN G. COOLEY, President.
IRWIN SHEPARD, Secretary.
ARTHUR H. CHAMBERLAIN, Treasurer.

1909—DENVER, COLO.
LORENZO D. HARVEY, President.
IRWIN SHEPARD, Secretary.
ARTHUR H. CHAMBERLAIN, Treasurer.

1910—BOSTON, MASS.
JAMES Y. JOYNER, President.
IRWIN SHEPARD, Secretary.
ARTHUR H. CHAMBERLAIN, Treasurer.

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

OFFICERS FOR 1909–10

GENERAL ASSOCIATION

James Y. Joyner	*President*	Raleigh, N.C.
Irwin Shepard	*Secretary*	Winona, Minn.
Arthur H. Chamberlain	*Treasurer*	Pasadena, Cal.

VICE-PRESIDENTS

Lorenzo D. Harvey, President of Stout Institute	Menomonie, Wis.
G. W. A. Luckey, Professor of Education, University of Nebraska	Lincoln, Nebr.
William M. Holloway, State Superintendent of Public Instruction	Tallahassee, Fla.
M. Bates Stephens, State Superintendent of Public Education	Annapolis, Md.
Frank B. Dyer, Superintendent of Schools	Cincinnati, Ohio
Thomas H. Harris, State Superintendent of Education	Baton Rouge, La.
William J. Kerr, President of Oregon Agricultural College	Corvallis, Ore.
Mrs. Katherine M. Cook, State Superintendent of Public Instruction	Denver, Colo.
Hervey B. Work, Superintendent of Schools	Wheeling, W. Va.
William A. Millis, President of Hanover College	Hanover, Ind.
Lloyd E. Wolfe, Principal of Vocational School for Boys	San Antonio, Tex.

BOARD OF TRUSTEES

Nicholas Murray Butler, *Chairman*	New York, N.Y.	Term expires July, 1910
Henry B. Brown	Valparaiso, Ind.	Term expires July, 1911
Carroll G. Pearse	Milwaukee, Wis.	Term expires July, 1912
James M. Greenwood, *Secretary*	Kansas City, Mo.	Term expires July, 1913
James Y. Joyner	Raleigh, N.C.	*Ex officio*

EXECUTIVE COMMITTEE

James Y. Joyner	*President*	Raleigh, N.C.
Lorenzo D. Harvey	*First Vice-President*	Menomonie, Wis.
Arthur H. Chamberlain	*Treasurer*	Pasadena, Cal.
Nicholas Murray Butler	*Chairman, Board of Trustees*	New York, N.Y.
John H. Phillips	*Member by Election*	Birmingham, Ala.

Irwin Shepard	*Secretary*	Winona, Minn.

BOARD OF DIRECTORS

Directors ex officio

James Y. Joyner, Raleigh, N.C.
Lorenzo D. Harvey, Menomonie, Wis.
Arthur H. Chamberlain, Pasadena, Cal.
Nicholas Murray Butler, New York, N.Y.
Irwin Shepard, Winona, Minn.

Life Directors

Bicknell, Thomas W., Providence, R.I.
Board of Education, Nashville, Tenn.
Brown, Elmer Ellsworth, Washington, D.C.
Butler, Nicholas Murray, New York, N.Y.
Cook, John W., DeKalb, Ill.
Cooley, Edwin G., La Grange, Ill.
Corson, Oscar T., Columbus, Ohio
Eliot, Charles W., Cambridge, Mass.
Gove, Aaron, Denver, Colo.
Graham, H. A., Mt. Pleasant, Mich.
Green, James M., Trenton, N.J.
Greenwood, J. M., Kansas City, Mo.
*Harris, W. T., Providence, R.I.
Harvey, Lorenzo D., Menomonie, Wis.
Jewett, A. V., Abilene, Kans.
Lyte, Eliphalet Oram, Millersville, Pa.
Marshall, T. Marcellus, Stouts Mills, W. Va.
Maxwell, William H., New York, N.Y.
Parker, Charles I., Chicago, Ill.
Pickard, Josiah L., Cupertino, Cal.
Pike, Joshua, Jerseyville, Ill.
Schaeffer, Nathan C., Harrisburg, Pa.

* Deceased.

Life Directors—*continued*

SKINNER, CHARLES R., New York, N.Y.
STATE TEACHERS' ASSOCIATION, Illinois.
*STRATTON, C. C., St. Johns, Ore.
TAYLOR, A. R., Decatur, Ill.
TEACHERS' INSTITUTE, Philadelphia, Pa.
WHITE, CHARLES G., Lake Linden, Mich.
WILSON, J. ORMOND, Washington, D.C.

*Deceased

Directors by Election

Alabama	SAMUEL S. MURPHY, Superintendent of Schools	Mobile
Arizona	A. J. MATTHEWS, President, Territorial Normal School	Tempe
Arkansas	GEORGE B. COOK, State Superintendent of Public Instruction	Little Rock
California	DUNCAN MACKINNON, Superintendent of Schools	San Diego
Colorado	CHARLES E. CHADSEY, Superintendent of Schools	Denver
Connecticut	CHARLES H. KEYES, Superintendent of South District Schools	Hartford
Delaware	GEORGE W. TWITMYER, Superintendent of Schools	Wilmington
Dist. of Col.	ELMER ELLSWORTH BROWN, United States Com'r of Education	Washington
Florida	MISS CLEM HAMPTON, Department of Education	Tallahassee
Georgia	JERE M. POUND, State Commissioner of Schools	Atlanta
Idaho	MISS S. BELLE CHAMBERLAIN, State Supt. of Public Instr.	Boise
Illinois	J. STANLEY BROWN, Principal of Township High School	Joliet
Indiana	THOMAS A. MOTT, Superintendent of Schools	Richmond
Iowa	FRANK L. SMART, Superintendent of Schools	Davenport
Kansas	JOHN MACDONALD, Editor, *Western School Journal*	Topeka
Kentucky	W. H. BARTHOLOMEW, Principal of Girls' High School	Louisville
Louisiana	WARREN EASTON, Superintendent of Schools	New Orleans
Maine	PAYSON SMITH, State Superintendent of Schools	Augusta
Maryland	A. C. WILLISON, County Superintendent of Schools	Cumberland
Massachusetts	IRVING O. PALMER, Science Master, Newton High School	Newtonville
Michigan	E. E. SCRIBNER, Superintendent of Schools	Ishpeming
Minnesota	S. L. HEETER, Superintendent of Schools	St. Paul
Mississippi	E. E. BASS, Superintendent of Schools	Greenville
Missouri	HOWARD A. GASS, State Superintendent of Public Instruction	Jefferson City
Montana	W. E. HARMON, State Superintendent of Public Instruction	Helena
Nebraska	A. H. WATERHOUSE, Superintendent of Schools	Fremont
Nevada	ROMANZO ADAMS, Professor of Education, University of Nevada	Reno
New Hampshire	HENRY C. MORRISON, State Superintendent of Public Instr.	Concord
New Jersey	M. H. KINSLEY, Superintendent of County Schools	Hoboken
New Mexico	JAMES E. CLARK, Territorial Supt. of Public Instruction	Santa Fé
New York	AUGUSTUS S. DOWNING, First Assistant Com'r of Education	Albany
North Carolina	W. S. SNIPES, Superintendent of Schools	Winston-Salem
North Dakota	THOMAS HILLYER, President of State Normal School	Mayville
Ohio	J. W. MACKINNON, Superintendent of Schools	Bellefontaine
Oklahoma	LYNN GLOVER, Professor of Polit. Econ., State Normal School	Weatherford
Oregon	EDWIN D. RESSLER, President of State Normal School	Monmouth
Pennsylvania	REED B. TEITRICK, Deputy State Sup't of Public Instruction	Harrisburg
Rhode Island	HERBERT W. LULL, Superintendent of Schools	Newport
South Carolina	DAVID B. JOHNSON, President of Winthrop Nor. and Indust. Coll.	Rock Hill
South Dakota	FREEMAN H. HOFF, Superintendent of Schools	Mitchell
Tennessee	I. C. MCNEILL, Superintendent of Schools	Memphis
Texas	GEORGE H. CARPENTER, Superintendent of Schools	Brownwood
Utah	W. S. RAWLINGS, Superintendent of Schools	Provo
Vermont	MASON S. STONE, State Superintendent of Education	Montpelier
Virginia	JOSEPH EGGLESTON, State Superintendent of Public Instruction	Richmond
Washington	HENRY B. DEWEY, State Superintendent of Public Instruction	Olympia
West Virginia	MORRIS P. SHAWKEY, State Superintendent of Schools	Charleston
Wisconsin	CARROLL G. PEARSE, Superintendent of Schools	Milwaukee
Wyoming	A. D. COOK, State Superintendent of Public Instruction	Cheyenne

DEPARTMENT OFFICERS

National Council

President	JOSEPH SWAIN, President of Swarthmore College	Swarthmore, Pa.
Vice-President	W. M. DAVIDSON, Superintendent of Schools	Omaha, Nebr.
Secretary	JOHN W. CARR, Superintendent of Schools	Bayonne, N.J.
Executive Committee	*W. T. HARRIS, ex-Com'r of Education of the U.S.	Providence, R.I.
Executive Committee	JAMES M. GREENWOOD, Superintendent of Schools	Kansas City, Mo.
Executive Committee	ELMER ELLSWORTH BROWN, U.S. Com'r of Education	Washington, D.C.

*Deceased.

Kindergarten

President	Miss Luella A. Palmer, Public School No. 63	New York, N.Y.
Vice-President	Miss Willette Allen, Principal of Kindergarten Normal	Atlanta, Ga.
Secretary	Miss Lucy Ellis, Principal of Kindergartens	Phoenix, Ariz.

Elementary

President	Thomas A. Mott, Superintendent of Schools	Richmond, Ind.
Vice-President	John A. Welch, Supervisor of Grammar Grades	Salt Lake City, Utah
Secretary	Miss Margaret Canty, Supervisor of Grammar Grades	Milwaukee, Wis.

Secondary

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NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

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Vice-President	B. M. Davis, Professor of Agricultural Educ., Miami University	Oxford, Ohio
Secretary	Ernest E. Balcomb, State Normal School	Providence, R.I.

TREASURER'S REPORT

OF THE

NATIONAL EDUCATION ASSOCIATION

JULY 1, 1909, TO JUNE 30, 1910

Arthur H. Chamberlain, in Account with the National Education Association

BALANCE ON HAND JULY 1, 1909			
Balance brought forward from Treasurer's Report for year ending June 30, 1909			$3,809.00
RECEIPTS FOR THE YEAR			
From Annual Meeting:			
Advance Enrollment—			
From W. F. R. Mills	$5,240.00		
Convention Registration	6,046.00		
		$11,286.00	
From Memberships, Indianapolis Meeting of Department of Superintendence		1,550.00	
From Secretary's Office during the year:			
Membership fees	$9,861.85		
Enrollment fees	412.00		
Exchange	9.37		
Sale of back volumes	755.15		
Sale of Committee Reports, Etc.	90.03		
Miscellaneous	14.00		
		$11,142.40	
From interest on Permanent Fund		6,761.73	
From royalty on sale of Reports of Committees of Ten and Fifteen		56.10	
From interest on deposits in First National Bank of Chicago		182.74	
Total receipts for the year			$30,978.97
Total receipts including balance brought forward			$34,787.97
DISBURSEMENTS			
Board of Trustees:			
For expenses			$295.80
Executive Committee expenses:			
President		$154.40	
First Vice-President		139.70	
Treasurer		398.21	
Chairman, Board of Trustees		104.80	
Member by election		200.00	
			$997.11
General Secretary's office:			
Salary of Secretary		$4,000.00	
Postage		2,098.85	
Telegrams		398.90	
Freight and express		36.05	
Clerical services		2,676.46	
Exchange		23.50	
Stationery and office supplies		138.94	
Traveling		777.81	
Rent		600.00	
Miscellaneous		97.59	
			10,848.10
Forward			$12,141.01

Brought forward			$12,141.01
Volumes of *Proceedings* (9,300)	$6,016.66		
Yearbooks (6,500 copies)	1,211.27		
		$7,227.93	
Reprints from volume		224.50	
Special Reports		641.09	
Executive Committee Bulletins		1,864.09	
Miscellaneous (letterheads, blanks, envelopes, etc.)		856.17	
			$10,813.78
Express and Freight:			
Distribution of volumes and reports		$2,802.28	
Miscellaneous		210.21	
			$3,012.49
Special Appropriations:			
Committee on Industrial Education		$10.00	
Committee on Place of Industries		96.73	
			$106.73
Conventions:			
Department of Superintendence:			
Clerical service—			
Registration and Typewriting, including Miscellaneous expense		$320.45	
Badges		100.00	
Printing—			
Programs for the Convention		70.00	
			$490.45
Annual Convention:			
Department expenses		$312.52	
State directors and managers		529.30	
Clerical Services:			
Registration Bureau		$590.80	
Stenographers and typewriter operators		420.43	
Printing:			
Programs		$514.30	
Stationery		55.65	
Miscellaneous (Expense of speaker—Denver Meeting)		10.00	
			$2,433.00
Unclassified disbursements:			
Examination of Securities		$ 3.00	
Bonds of Secretary and Treasurer		50.00	
Official Seal and Seal Press		67.50	
Auditing books of Secretary and Treasurer		30.00	
Exchange of two typewriters		60.00	
Conference of Department Presidents		908.30	
Miscellaneous:			
Press Clippings	$60.00		
Refunds of duplicate payments	24.00		
Reports of Committees of Ten and Fifteen	5.00		
Purchase of back volumes	30.66	$119.66	
			$1,238.46
			$30,235.92

SUMMARY

Receipts

Balance brought forward from the Treasurer's report for year ending June 30, 1909	$ 3,809.00	
Receipts for year July 1, 1909, to June 30, 1910	30,978.97	
		$34,787.97

Disbursements

Total expenses for the year	$30,235.92
Balance in treasury, June 30, 1910	$ 4,552.05

Respectfully submitted,

ARTHUR H. CHAMBERLAIN, *Treasurer*

BOSTON, MASS., July 2, 1910

The undersigned, Trustees of the National Education Association, have this day examined and approved the foregoing accounts of Arthur H. Chamberlain, Treasurer, with all statements of receipts and vouchers for disbursements.

J. M. GREENWOOD, *Acting Chairman*
HENRY B. BROWN
JAMES Y. JOYNER

THE INTERNATIONAL AUDIT COMPANY
Merchants' Loan and Trust Building

CHICAGO, November 25, 1910

Board of Trustees, National Education Association of the United States

GENTLEMEN: We have audited the books and accounts of the National Education Association of the United States, kept by the Secretary, Dr. Irwin Shepard, and the Treasurer, Mr. Arthur H. Chamberlain, for the period from 1st July, 1909 to 30th June, 1910, and compared them with the relative vouchers and cheques, and find the books to be correct. We compared the Treasurer's records with those kept by the Secretary and find them to be in accord.

We annex herewith a statement of the Receipts and Disbursements for the period under review, which we have checked with the books. We certify it to be in accordance therewith.

Yours very truly,
THE INTERNATIONAL AUDIT COMPANY.
By (Signed) ROBERT NELSON, *C. A. Manager*

TWENTY-FOURTH ANNUAL REPORT OF THE BOARD OF TRUSTEES OF THE NATIONAL EDUCATION ASSOCIATION

FOR THE YEAR JULY 1, 1909, TO JUNE 30, 1910

BOSTON, MASSACHUSETTS, July 5, 1910

To the Board of Directors of the National Education Association:

The Board of Trustees of the National Education Association has the honor to submit its report on the Permanent Fund of the Association for the year ending June 30, 1910.

The amounts collected as income from the Permanent Fund and the disposition made of the income are shown in the following Income Account.

There have been no additions to the principal of the fund during the year, which remains, therefore, at $170,100.

During the year one Chicago real estate mortgage and one Lemont, Illinois, school bond have been paid off, and the proceeds invested, as shown, in $3,000 Atlantic Coast Line, first mortgage bonds, due July 1, 1952.

The present state of the investments held for the Permanent Fund is shown in the following Statement of Securities held for the Permanent Fund.

Statement A shows the net income of the property at 4762 Lake Avenue, Chicago, Illinois, title to which, as has been noted in earlier reports, was taken by the Trustees under proceedings for foreclosure of mortgage. The Trustees hope to dispose of this property in the near future.

The financial operations of the year, and the present state of the Permanent Fund, are set out in detail in the accounts and statements which follow:

INCOME ACCOUNT

RECEIPTS

$ 7,000	St. Louis and San Francisco R. R. Co. refunding bonds, 1951, at 4 per cent.	$ 280.00	
15,000	Terminal Association of St. Louis general refunding bonds, 1953, at 4 per cent.	600.00	
20,000	Pittsburg, Lake Erie, and West Virginia System refunding bonds, 1941, at 4 per cent	800.00	
10,000	Oregon Short Line R. R. Co. refunding bonds, 1929, at 4 per cent	400.00	
17,000	City of New York registered bonds, 1957, at 4½ per cent	765.00	
2,500	Village of Morgan Park gold bonds, 1911, at 4½ per cent.		
1,000	Village of Morgan Park gold bonds, 1912, at 4½ per cent.	157.50	
1,500	Lemont, Ill., school bonds, 1912–13, at 5 per cent	50.00	
10,000	Chicago drainage bonds, 1916		
40,000	Chicago drainage bonds, 1917 at 4 per cent	2,000.00	
9,000	West Chicago park bonds, 1918		
10,000	West Chicago park bonds, 1919 at 4 per cent	760.00	
10,000	Pennsylvania R. R. Co. convertible bonds, 1915, at 3½ per cent	350.00	
3,000	Atlantic Coast Line bonds, 1952, at 4 per cent	120.00	
10,000	Chicago, Indiana and Southern Railway Co. guaranteed bonds 1956, at 4 per cent	400.00	
2,500	Bond and mortgage on 5603 Madison Avenue, Chicago, (Lewis), 1909, at 5 per cent	62.50	
	Interest to date of payment of principal on Lemont, Illinois, school bond, $500 at 5 per cent	12.50	
	Interest on cash balance in First Trust and Savings Bank, Chicago	73.76	
	Net income of property 4762 Lake Ave., Chicago (see Statement A)	203.35	
			$7,034.61

DISBURSEMENTS

Fee of First Trust and Savings Bank, Chicago, Illinois, on new investment of $3,000—½ of 1 per cent	$ 15.00	
Fee of First Trust and Savings Bank, Chicago, Illinois, for care of principal of Permanent Fund	206.88	
Accrued interest on $3,000 Atlantic Coast Line bonds purchased	51.00	
Net income paid to Treasurer National Education Association	6,761.73	
		$7,034.61

PRINCIPAL ACCOUNT

RECEIPTS

	Cash on hand for investment July 1, 1909	$ 997.50	
	Mortgage, 5603 Madison Ave. (Lewis), paid July 1, 1909	2,500.00	
	Lemont, Illinois, school bond, paid December 1, 1909	500.00	
			$3,997.50

DISBURSEMENTS

$ 1,000	Atlantic Coast Line, 4 per cent. bonds at 96	$ 960.00	
1,000	Atlantic Coast Line, 4 per cent. bonds at 96⅜	963.75	
1,000	Atlantic Coast Line, 4 per cent. bonds at 96½	965.00	
	Cash on hand for investment June 30, 1910	1,108.75	
			$3,997.50

STATEMENT OF SECURITIES HELD FOR THE PERMANENT FUND JUNE 30, 1910

MUNICIPAL AND SCHOOL BONDS

Par Value	Security	Acquired	Interest	Book Value
$ 8,000	City of New York registered gold bonds, due November 1, 1957, Nos. 554 to 561	Feb. 29, 1908	4½% May and Nov.	$8,510.00
9,000	City of New York gold bonds, due November 1, 1957, Nos. 26,816 to 26,824	June 12, 1908	4½% May and Nov.	9,810.00
2,500	Village of Morgan Park, Ill. gold bonds due November 1, 1911, Nos 1 to 5	1895	4½% May and Nov.	2,500.00
1,000	Village of Morgan Park, Ill. gold bonds due July 1, 1913, Nos 4 and 5, Series O	1895	4½% Jan. and July	1,000.00
1,000	Lemont, Ill., school bonds, Nos. 30 and 32, payable $500 December 1, 1912, and December 1, 1913	1897	5% June and Dec.	1,000.00
10,000	Sanitary District of Chicago, drainage bonds, Nos. 24,516–24,525, due December 1, 1916	1905	4% June and Dec.	10,000.00
40,000	Sanitary District of Chicago, drainage bonds, Nos. 24,591–24,625, 24,636–24,640, due December 1, 1917	1904	4% June and Dec.	40,000.00
9,000	West Chicago park bonds, Nos. 1,101–1,109, due April 1, 1918	July 31, 1906	4% April and Oct.	9,045.00
10,000	West Chicago park bonds, Nos. 615,629–631, 1,243–1 248, due April 1, 1909	July 31, 1906	4% April and Oct.	10,075.00
$90,500				$91,940.00

RAILROAD BONDS

Par Value	Security	Acquired	Interest	Book Value
$ 7,000	St. Louis and San Francisco R. R. Co. refunding gold bonds, Nos. 47,435, 47,457, 47,537, 49,012, 49,670, 57,373, 57,514, due July 1, 1951	Jan. 3, 1907	4% Jan. and July	$ 5,775.00
15,000	Terminal Association of St. Louis general refunding sinking fund gold bonds, Nos. 16,311–16,325, due January 1, 1953	Jan. 30, 1905	4% Jan. and July	15,050.00
20,000	Pittsburg, Lake Erie, and West Virginia System refunding gold bonds, Nos. 13,496–13,500, 21,236–21,250, due November 1, 1941	Jan. 13, 1906	4% May and Nov.	19,942.50
10,000	Oregon Short Line R. R. Co. guaranteed refunding gold bonds, Nos. 4,013–4,017, 4,025–4,027, 4,976, 13,810, due December 1, 1929	Feb. 3, 1908	4% June and Dec.	8,895.00
10,000	Pennsylvania R. R. Co. convertible bonds, Nos. B-22,823 to B-22,838, inclusive, B-27,655, B-27,671, B-27,672, and B-11,258, due October 1, 1915	Jan. 11, 1909	3½% June and Dec.	9,500.00
10,000	Chicago, Indiana and Southern Railway Co. bonds, Nos. 11,386 to 11,394 inclusive, and 13,786, due January 1, 1056	Jan. 18, 1909	3% Jan. and July	9,500.00
3,000	Atlantic Coast Line 1st Cons. Bonds, Nos. 5,130, 6,494, 24,601, due July 1, 1952	Aug. 3, 1909	4% March and Sept.	2,888.75
$75,000				$71,551.25

REAL ESTATE

Par Value	Security	Acquired	Interest	Book Value
$5,500	4762 Lake Ave., Chicago, Ill. (Hord property)	1907	Rent $30 monthly	$5,500.00

	Cash on hand awaiting investment	$1,108.75
Total $171,000	Total	$170,100.00

STATEMENT A

RECEIPTS

Rents received by First Trust and Savings Bank, Chicago, Illinois	$330.00

DISBURSEMENTS

Taxes for 1909	$101 60	
Special assessment (paving 47th Street)	1 84	
Repairs	6.71	
Fees of 5 per cent. of First Trust and Savings Bank on $330.00 rents collected	16.50	
Net income	203.35	
		$330.00

At a meeting of the Trustees held on April 13, 1910, Irwin Shepard was re-elected Secretary of the National Education Association for a term of four years, from August 1, 1910, at an annual salary of $4,000, and was given authority to employ such person as may be approved by the Trustees to serve as Assistant Secretary, and to receive as compensation therefor such sum, chargeable to the appropriation for the salary of the Secretary, as may be proposed by Secretary Shepard and approved by the Trustees.

Respectfully submitted

NICHOLAS MURRAY BUTLER, *Chairman*
JAMES M. GREENWOOD
HENRY B. BROWN
JAMES Y. JOYNER
CARROLL G. PEARSE
Trustees

Chicago, Ill.

To the Trustees of the National Education Association:

GENTLEMEN: The above and foregoing is a correct statement of the account of the funds of the National Education Association of the United States from July 1, 1909, to July 1, 1910, as the same appears on the books of this bank.

First Trust and Savings Bank,
By LOUIS BOISOT, *Trust Officer*

To the Board of Directors of the National Education Association:

I have this day examined the securities in the foregoing statement made by the Board of Trustees, and find all bonds and securities therein named in the custody of Louis Boisot, Trust Officer of the First Trust and Savings Bank, of Chicago, Ill.

CHARLES H. JUDD

JOURNAL OF PROCEEDINGS

OF THE

FORTY-EIGHTH ANNUAL MEETING

OF THE

NATIONAL EDUCATION ASSOCIATION OF THE UNITED STATES

BOSTON, MASS., JULY 2–8, 1910

FIRST DAY'S PROCEEDINGS

OPENING SESSION—MONDAY AFTERNOON, JULY 4, 3:30 O'CLOCK

The forty-eighth annual convention of the National Education Association was opened in the Stadium of Harvard University at Cambridge, Mass., at 3:30 P.M. on July 4. A. Lawrence Lowell, president of Harvard University, chairman of the Advisory Committee of the local organization of the National Education Association, presided.

The hymn "America" was sung by the Handel and Haydn Society of Boston and by the great audience of fifteen thousand, under the leadership of Director Emil Mollenhauer, accompanied by Stewart's Military Band.

Rev. Paul Revere Frothingham, minister of the Arlington Street Church of Boston, led the audience in prayer.

Brief addresses of welcome were delivered by Hon. Eben Sumner Draper, governor of the commonwealth of Massachusetts, and Hon. John Francis Fitzgerald, mayor of the city of Boston.

At this point President Lowell introduced as the presiding officer of the remainder of the exercises the President of the National Education Association, Hon. James Yadkin Joyner, state superintendent of public instruction, Raleigh, N.C.

President Joyner introduced Hon. Francis G. Blair, state superintendent of public instruction for the state of Illinois, who responded to the addresses of welcome.

The hymn "To Thee, Oh Country!" by *Julius Eichberg*, was sung by the Handel and Haydn Society, accompanied by Stewart's Military Band.

William Howard Taft, President of the United States, was then introduced and delivered an address on "The Relation of Education to Democratic Government."

The President's address was followed by the hymn "Unfold, Ye Portals Everlasting!" from "The Redemption," by *Gounod*.

An address was given by Hon. William Walton Kitchin, governor of the state of North Carolina, on "Education and American Independence," which was followed by an address on "War and Manhood" by David Starr Jordan, president of Leland Stanford Junior University, of California.

"The Star Spangled Banner" was then sung by the Handel and Haydn Society of Boston, accompanied by Stewart's Military Band.

The following Committee on Resolutions was appointed by President Joyner:

COMMITTEE ON RESOLUTIONS

Julius I. Foust, of North Carolina, *Chairman*

Joseph Swain, of Pennsylvania
George B. Cook, of Arkansas
Homer H. Seerley, of Iowa
Katherine D. Blake, of New York

By previous arrangement, the sessions of the active members by states for the election of members of the nominating committee were held immediately after the close of the Stadium exercises, at designated sections of the Colonnade of the Stadium.

The convention adjourned to Tuesday evening, July 5.

SECOND DAY'S PROCEEDINGS

Second Session—Tuesday Evening, July 5, 8 o'clock

The convention was called to order in Tremont Temple in the city of Boston by President Joyner at 8 o'clock P.M.

Music by a band of pupils of the Thomas N. Hart Grammar School—Mr. Fred W. Lewis, director.

The annual presidential address was delivered by James Y. Joyner, state superintendent of public instruction, Raleigh, N.C. The subject of the address was "Some Dominant Tendencies in American Education."

"A Message from the United States Bureau of Education" was given by Elmer Ellsworth Brown, United States Commissioner of Education, Washington, D.C.

A memorial address on Dr. William Torrey Harris was delivered by James M. Greenwood, superintendent of city schools, Kansas City, Mo.

After announcements, adjournment was taken to Wednesday evening, July 6.

THIRD DAY'S PROCEEDINGS

Third Session—Wednesday Evening, July 6, 8 o'clock

The convention assembled at 8 o'clock P.M. and was called to order by President Joyner. Music by the Oliver Ames High School Band—H. E. Brenton, director.

The following Committee on Nominations was announced by President Joyner:

COMMITTEE ON NOMINATIONS

David B. Johnson, of South Carolina, *Chairman*

John H. Phillips	Alabama
A. J. Matthews	Arizona
B. A. Spradlin	Arkansas
J. W. McClymonds	California
James H. Baker	Colorado
Edwin C. Andrews	Connecticut
Alice O. Johnson	Delaware
Harlan Updegraff	Dist. of Col.
W. M. Holloway	Florida
Mrs. F. S. Whiteside	Georgia
I. B. Warner	Idaho
Francis G. Blair	Illinois
Robert J. Aley	Indiana
W. O. Riddell	Iowa
Joseph H. Hill	Kansas
E. H. Mark	Kentucky
T. H. Harris	Louisiana
H. H. Randall	Maine
M. Bates Stephens	Maryland
Albert E. Winship	Massachusetts
Fred L. Keeler	Michigan
Guy E. Maxwell	Minnesota
M. Rose	Mississippi
W. J. Hawkins	Missouri
C. A. Duniway	Montana
W. M. Davidson	Nebraska
Mrs. L. C. Booth	Nevada
Clark T. Falknor	New Hampshire
J. M. Green	New Jersey
Inez Cosgrove	New Mexico
Katherine D. Blake	New York
E. C. Brooks	North Carolina
Clyde R. Travis	North Dakota
O. T. Corson	Ohio
J. B. Taylor	Oklahoma
W. J. Kerr	Oregon
Charles S. Foos	Pennsylvania
Walter E. Ranger	Rhode Island
David B. Johnson	South Carolina
H. A. Ustrud	South Dakota
J. J. Keyes	Tennessee
J. D. Sandefer	Texas
Horace H. Cummings	Utah
Merritt D. Chittenden	Vermont
J. D. Eggleston	Virginia
Miss S. M. Hummel	Washington
Thomas C. Miller	West Virginia
Emma J. Gardner	Wisconsin
Kate Smith	Wyoming

An address on "Criticisms of the Public Schools by the Laity" was delivered by James W. Crabtree, president of the State Normal School at Peru, Nebr.

"The Effect of Electives Chosen in College" was the subject of an address by A. Lawrence Lowell, president of Harvard University, Cambridge, Mass.

"The Value of Demonstrative Methods in the Agricultural Education of the Rural Population" was the subject of an address by H. L. Russell, dean of the College of Agriculture and director of Experiment Station, University of Wisconsin, Madison, Wis. This address was illustrated by stereopticon views.

The session was adjourned to Thursday evening.

FOURTH DAY'S PROCEEDINGS

Fourth Session—Thursday Evening, July 7, 8 o'clock

The convention was called to order at 8 o'clock P.M. by President Joyner. Music by the Thomas N. Hart Grammar School Band—Fred W. Lewis, director.

A paper on "Public Health and Public Education" was read by William Orr, deputy commissioner of education, Boston, Mass.

"Universal Education and International Peace" was the subject of an address by P. P. Claxton, University of Tennessee, Knoxville, Tenn.

An address on "Training for Teaching" was delivered by Miss Emma L. Johnston, principal of Brooklyn Training School for Teachers, New York, N.Y.

The session was adjourned to Friday evening.

FIFTH DAY'S PROCEEDINGS

Fifth Session—Friday, July 8, 8 o'clock

The convention assembled at 8 o'clock P.M. and was called to order by President Joyner. Music by the Oliver Ames High School Band—H. E. Brenton, director.

The first paper was "Education of Women for Home-making," by Mrs. W. N. Hutt, Chairman of Woman's Branch of the Farmer's Institute Work of North Carolina, Raleigh, N.C.

Then followed a paper on "The Value during Education of a Life-Career Motive," by Charles W. Eliot, president *emeritus* of Harvard University, Cambridge, Mass.

President Joyner then introduced the President-elect, Ella Flagg Young, of Chicago, Ill., who spoke as follows:

It is with a deep sense of the honor you have conferred upon me, and of the responsibility I assume in accepting the presidency of this Association that I enter upon the duties of the position to which you have elected me. I am well aware that in one short year a president may not influence the character of the Association in a marked degree. The president may, however, conserve the good which has been developed in the past and assure one advance step in the future.

I hope to assist in abolishing the distinction in membership between those who can, and those who cannot, pay comparatively high dues. This will never be a truly democratic organization while it shuts out from active membership the men and the women who receive small salaries, teaching in a cramped environment where people have not yet learned the value of a teacher. Something certainly can be accomplished toward advancing the spirit of fellowship among teachers so that all will be interested in education not only in the rural district, the village, or the town in which their personal work is carried on, but thruout the land.

The Forty-eighth Convention was adjourned *sine die* by President Joyner.

Irwin Shepard, *Secretary*

MINUTES OF MEETING OF THE ACTIVE MEMBERS OF THE ASSOCIATION

BOSTON, MASSACHUSETTS—THURSDAY, JULY 7, 1910

The meeting was called to order at the New Old South Church at 12 M. by President James Y. Joyner.

On motion of John W. Cook, of Illinois, the minutes of the last annual meeting of the active members were approved as printed in the *Yearbook* for 1909.

James M Greenwood, Acting Chairman of the Board of Trustees, then presented the Twenty-fourth Annual Report of the Board of Trustees. Printed copies of the report had previously been distributed to the active members present.

On motion of Charles H. Keyes, of Connecticut, the Report of the Board of Trustees as presented by James M. Greenwood, Vice-Chairman, was accepted and approved as printed.

CARROLL G. PEARSE, of Wisconsin: Thru an error the name of Trustee Pearse does not appear on the Report of the Board of Trustees, but it will be duly appended thereto.

On motion, duly seconded, it was voted to receive the report subject to that amendment.

Arthur H. Chamberlain, Treasurer of the Association, presented his report as Treasurer, for the year ending June 0, 1910. Printed copies of the report had been distributed to the active members present.

On motion of Miss Katherine D. Blake, of New York, the report of the Treasurer, Arthur H. Chamberlain, of California, which was also in printed form, was received and approved as printed.

PRESIDENT JOYNER: The next business in order is the report of the Committee on the Revision of By-Laws, of which E. Oram Lyte, of Pennsylvania, is chairman. That committee was appointed by resolution at the last meeting, when the following motion was passed:

Resolved, That a committee of five be appointed by the President to formulate desired amendments to the By-Laws so that the same may be submitted at the next annual meeting and be finally considered at the meeting of Active Members in 1911.

You will understand that your committee was appointed by my predecessor, President L. D. Harvey, of Wisconsin. The report is quite a long one, and as it is not to be acted upon finally until the Annual Meeting in 1911, and as opportunity will be given for full discussion of it at that time, I suggest that, since it is to be printed before the next meeting, you can order that the report be received and the committee continued in accordance with the resolution for final report at the regular business meeting in 1911. If this is not your pleasure, Chairman Lyte is ready to read the report to the body.

AUGUSTUS S. DOWNING, of New York: I move that the report be accepted for printing and distribution to the members prior to the meeting in 1911, when full consideration may be had.

The motion was duly seconded and carried without dissent.

PRESIDENT JOYNER: Next in order is the report of your Committee on the Bureau of Education.

JOHN W. COOK, of Illinois, chairman of the committee: Two years ago the Association provided for the appointment of a committee of five whose special work was to

endeavor to secure additional appropriations for the United States Bureau of Education, and to co-operate with that Bureau in such ways as seemed practicable. I have here a brief report, which it is not necessary for me to read. I will, with your consent, present it to the Secretary that it may be made a matter of record. I move the adoption and publication of this report.

The motion was seconded and carried.

MR. COOK: I now move the appointment by the President of a similar committee of five members for the succeeding year.

The motion was seconded and carried.

REPORT OF THE COMMITTEE APPOINTED IN 1908 FOR THE PURPOSE OF AIDING IN SECURING FAVORABLE ACTION ON THE PART OF CONGRESS FOR THE BETTER EQUIPMENT OF THE BUREAU OF EDUCATION

Members of the National Education Association:

Your committee has endeavored to the best of its ability to serve the purposes for which it was created. This it has aimed to do by inducing educational men thruout the country to use such influence as they possess in urging members of Congress to favor more generous appropriations for the National Bureau of Education.

Your Committee is of the opinion that something has been accomplished in this direction. Many other agencies have been active in endeavoring to secure the same result. It is very evident that there is a greatly increased interest in the welfare of the Bureau. This interest is manifested by active co-operation in the form of letters of indorsement and resolutions to congressmen and senators from all parts of the country. Among the individuals and organizations that have come to the support of the Bureau, the following may be noted:

State Association of School Boards and School Superintendents of Michigan.
State Association of Superintendents of California.
Teachers Association of North Carolina.
Teachers Association of Georgia.
Summer School of the South, Knoxville, Tenn.
Business Men's Club, Memphis, Tenn.
Civic Progess League, Memphis, Tenn.
Three Hundred School Boards and Boards of Education.
Fifteen Hundred individual indorsements.
Columbia Teachers College.
Department of Education, University of Chicago.
Department of Education, Cornell University.
Department of Child Hygiene of Russell Sage Foundation.

These organizations, and many others, have unqualifiedly indorsed the Bureau and have had no small degree of influence in the marked change of sentiment which is observable among members of Congress. A very large number of personal appeals have been made to congressmen by superintendents of public instruction, superintendents of city systems, business men on boards of education, and leading private citizens who are greatly interested in the welfare of the school.

It is believed that your committee has accomplished something in the way of awakening public opinion and possibly enough to warrant the continuance of such an organization, although it must be understood as laying no claim for having achieved anything like the totality of results mentioned above. This report is now submitted for the consideration of the members at this business meeting of the Association as it is the opinion of the committee that its term of office has expired by limitation.

Respectfully submitted,

Committee
JOHN W. COOK, of Illinois, *Chairman*
JAMES H. BAKER, of Colorado
CALVIN N. KENDALL, of Indiana
JAMES Y. JOYNER, of North Carolina
THOMAS M. BALLIET, of New York

PRESIDENT JOYNER: Next in order is the report of the Committee on Nominations. Mr. D. B. Johnson, of South Carolina, chairman of the committee, will be recognized to make the report of the Committee on Nominations.

The following report was read by Chairman Johnson:

To the Active Members of the National Education Association:

The Committee on Nominations duly appointed in accordance with the By-Laws of the Association, presents the following nominations for officers of the Association for the ensuing year, viz.:

For *President*	Z. X. Snyder	Colorado
For *Treasurer*	D. W. Springer	Michigan
For *Vice-Presidents*	James Y. Joyner	Raleigh, N.C.
	Mrs. Ella Flagg Young	Chicago, Ill.
	Fayette L. Cook	Spearfish, S. Dak.
	George A. McFarland	Valley City, N. Dak.
	Thomas C. Miller	Shepherdstown, W.Va.
	Charles S. Foos	Reading, Pa.
	Homer H. Seerley	Cedar Falls, Iowa
	F. O. Hays	Alva, Okla.
	E. T. Fairchild	Topeka, Kans.
	Samuel Avery	Lincoln, Nebr.
	C. A. Duniway	Bozeman, Mont.

And for directors for the states and territories the following:

STATE DIRECTORS

Alabama	John W. Abercrombie	University
Arizona	A. J. Matthews	Tempe
Arkansas	George B. Cook	Little Rock
California	Duncan MacKinnon	San Diego
Colorado	Charles E. Chadsey	Denver
Connecticut	Frederick A. Verplanck	South Manchester
Delaware	George W. Twitmyer	Wilmington
District of Columbia	P. M. Hughes	Washington
Florida	Miss Clem Hampton	Tallahassee
Georgia	Mrs. F. S. Whiteside	Atlanta
Idaho	Charles S. Meek	Boise City
Illinois	J. Stanley Brown	Joliet
Indiana	Thomas A. Mott	Richmond
Iowa	O. P. Bostwick	Clinton
Kansas	John MacDonald	Topeka
Kentucky	W. H. Bartholomew	Louisville
Louisiana	Miss Mary Stevens	Monroe
Maine	Payson Smith	Augusta
Maryland	A. C. Willison	Cumberland
Massachusetts	Irving O. Palmer	Newton
Michigan	E. E. Scribner	Ishpeming
Minnesota	S. L. Heeter	St. Paul
Mississippi	E. E. Bass	Greenville
Missouri	Howard A. Gass	Jefferson City
Montana	James M. Hamilton	Bozeman
Nebraska	A. A. Reed	Lincoln
Nevada	Mrs. L. C. Booth	Reno
New Hampshire	Henry C. Morrison	Concord
New Jersey	M. H. Kinsley	Hoboken
New Mexico	J. E. Clark	Santa Fe
New York	Augustus S. Downing	Albany
North Carolina	W. S. Snipes	Fayetteville
North Dakota	Nelson Sauvain	Casselton
Ohio	John W. Zeller	Columbus
Oklahoma	W. C. Canterbury	Marietta
Oregon	Edwin D. Ressler	Corvallis
Pennsylvania	Reed B. Teitrick	Harrisburg
Rhode Island	H. W. Lull	Newport
South Carolina	David B. Johnson	Rock Hill
South Dakota	Freeman H. Hoff	Mitchell
Tennessee	J. J. Keyes	Nashville
Texas	George H. Carpenter	Brownwood
Utah	G. N. Child	Provo
Vermont	Mason S. Stone	Montpelier

Virginia	Joseph Eggleston	Richmond
Washington	H. B. Dewey	Olympia
West Virginia	Morris P. Shawkey	Charleston
Wisconsin	Carroll G. Pearse	Milwaukee
Wyoming	A. D. Cook	Cheyenne

Respectfully submitted,

D. B. Johnson, *Chairman*

Kate Smith, *Secretary*

Miss Katherine D. Blake, of New York: *Mr. President and Members of the National Education Association:* As a member of the nominating committee in which the vote for nominee for President was comparatively close, I have the honor of presenting as a minority report to this convention the name of Mrs. Ella Flagg Young, of Illinois, as nominee for President for the ensuing year, in place of Z. X. Snyder, of Colorado, named for that office in the report just presented. I understand that the presentation of such a report as I am making is without precedent in the annals of this Association, and I am glad that this woman, who has been breaking records ever since she started, is breaking the record of this Association now. I know of no healthier sign in an organization than a contest for the presidency. It means that it is of value; that the members are alive and active.

Therefore I welcome this chance to make a minority report. I think all of us feel earnestly and sacredly the trust that is imposed in us. We are every one of us more or less delegated by the people from our own states. The question of the presidency has been talked over in every hamlet of this country. For the first time in the history of this organization a woman has been mentioned for the high office that has been filled for so many years by so many distinguished men, and for the first time we have a woman who stands, frail and little as she is, towering above those that are about her. She has not merely a national reputation. She has an international reputation.

I regret any mention of a sex line in any contest, Mr. President. We are presenting the name of Mrs. Young as the best human being for this position. She has the record of having taught from the rural school to the university. She has done something that thrills every one of us; when you can say that man or woman past fifty starts in and obtains a university education, it is something to thrill one with admiration. I do not know but I will try to do it myself.

Mrs. Young merits everything that has been said of her. She has taken a place that was so difficult, as I learned from a gentleman from Illinois this morning, that two distinguished men have failed before her. I beg your pardon, I should not have said that. I did not mean that. They did not fail. I mean that she has succeeded more wonderfully than they did. You must forgive me if I make mistakes. It is my first attempt at a campaign, and I expect to make mistakes. I am an amateur at it, and can only speak from my heart.

We women have been criticized for our methods. They have said that we ought not to have done certain things. You men have been working for years in this organization, while we have been taking meekly and quietly the seat in the back of the room. We have come here year after year, many of us, paid our money and listened, and it may seem to you surprising that we now ask to be heard. If our first accents tremble and we say words wrong, you must forgive us. We have a woman to speak for us in Mrs. Young who will not speak the word wrong, and I beg your suffrages for her. It has been said that too many of the presidents have come from Illinois. I am not from Illinois; I am fromNew York. I think the question of too many presidents coming from one place is too trivial to be considered. We do not stop to count where the presidents of the United States come from. A good many of them have come from a western state. Besides that, Mrs.Young comes not from Chicago, but from this whole country. There are women and men from north and south, from east and west, and from center, all anxious to see her given a chance to do in this Association what she has done already in Chicago. Mr. President, I move the substitution of the minority report for the majority report.

The motion was seconded.

President Joyner: The motion of Miss Blake is not in order at this point, but the Chair will recognize her to make that motion as an amendment after a motion has been made to adopt the report of the committee.

Augustus S. Downing, of New York: I move the adoption of the majority report of the Committee on Nominations as presented by the Chairman.

JOHN W. COOK, of Illinois: I second the motion that the majority report of the committee be adopted.

MISS BLAKE: I now move the substitution of the minority report for the majority report.

MISS ISABEL A. ENNIS, of New York: I second the motion.

PRESIDENT JOYNER: We have before us the report of a majority of the nominating committee, which has been read in your presence, and a motion for the adoption of the same. You also have before you the report of a minority of the Committee on Nominations, dissenting from the report of the majority, and a substitute motion for the adoption of the minority report. The motion which has been made to substitute the report of the minority of the committee for that of the majority takes precedence of the motion to adopt the report of the majority of the committee, and will be voted upon first.

MISS GRACE C. STRACHAN, of New York: I wish to speak in support of the substitute motion. I have been attending conventions of the National Education Association for many years, and as is well known the women do not fail to attend the lectures and the evening meetings, but they frequently do fail to attend the business meetings. For forty-eight years the presidency has fallen each year to a man. This time we have found a woman whom we would like to see President of the National Education Association.

There have been some objections made to the tactics used by the women interested in Mrs. Young's election. I am very glad to have you know and have you all see that there are many men also who desire the election of Mrs. Young; but when one considers the objections as to tactics one feels that they are very trifling. For instance, I asked somebody what the objections were, and he said, "Well, in the matter of these badges; never before has the candidate for the presidency had a personal badge passed around." This is the age of badges and buttons. We whom I represent wear this red badge. I represent fourteen thousand women. For several years we have used this badge I.A.W.T., and we did not think of any interpretation for it except Interborough Association of Women Teachers, until a man saw it and read it, "I Am With Thee." Since then, we prefer that interpretation. So much for the badges. Another objection is that some of the advocates of Mrs. Young began several weeks ago writing around the country with reference to Mrs. Young. Now, it may be a matter for thanksgiving that they did not begin earlier, because if they had there would have been so many women from the city of New York that we would have had to go to the Stadium for the election. We have known only for a very short time that Mrs. Young would permit her name to be used as a candidate for the presidency, and in that very short time we have had the opportunity to reach only a few of the women who are interested in Mrs. Young as an educator. That objection, like the one about the badges, seems to me not important in this discussion. This is a matter of choosing a prominent educator for the most responsible office in our Association, and I must confess that of the two names presented to us this morning, those of Mr. Snyder and Mrs. Young, my knowledge of the career of both makes me believe that Mrs. Young is not the second in the matter of record or ability.

I hope that the women who have formed so large a part of this Association for so many years, and have asked for nothing, will find that this time the Association will recognize their request for this high office, and that the election of Mrs. Young this morning will be unanimous.

C. A. DUNIWAY, of Montana: I move that debate be closed, and that we proceed to vote on the substitute motion.

Seconded and carried.

PRESIDENT JOYNER: Now we are prepared to vote first on the substitute motion. The Chair desires to appoint tellers to take the vote in this matter.

A discussion followed as to the proper method of taking the vote on the substitute motion and the Chair was called upon for a ruling.

PRESIDENT JOYNER: The Chair rules that as debate has been closed by motion of this house, a vote upon the substitute motion comes first, and that this vote is to be taken by a rising vote. The vote will now occur upon the minority report of the committee to substitute Mrs. Young's name in place of Mr. Snyder's, in the report. If that should be adopted by this house, then the question to come before the house would still

be to elect by ballot the amended list of the majority report; the adoption of that amended list by ballot would amount to an election.

At the request of President Joyner six tellers were selected by the majority of the nominating committee thru the chairman of the committee, D. B. Johnson, and six tellers by the minority, represented by Miss Katherine D. Blake, as follows:

TELLERS FOR THE MINORITY

Francis G. Blair, of Illinois
A. E. Winship, of Massachusetts
Mrs. F. S. Whiteside, of Georgia
Charles Zueblin, of Massachusetts
Emma J. Gardner, of Wisconsin
Isabel A. Ennis, of New York

TELLERS FOR THE MAJORITY

Charles H. Keyes, of Connecticut
E. H. Marks, of Kentucky
James M. Greenwood, of Missouri
Augustus S. Downing, of New York
J. George Becht, of Pennsylvania
James H. Baker, of Colorado

President Joyner accepted the tellers nominated and assigned them in pairs to different sections of the church to take the vote.

President Joyner: The Chair decides that the vote shall be taken as follows: The tellers will go thru the church and take the vote seat by seat, first those voting for the substitute motion to adopt the minority report rising and standing until counted, and then those voting against the substitute motion report rising and standing until counted.

The vote was then taken by the tellers and the result counted and handed to President Joyner.

President Joyner: The result of the vote is, as reported by the tellers, that 993 votes were cast; 617 in favor of the substitute motion naming Mrs. Ella Flagg Young as nominee for the presidency, and 376 in opposition to said motion. The substitute motion is therefore carried and the majority report of the Committee on Nominations is amended accordingly, substituting the name of Mrs. Ella Flagg Young, of Illinois, for that of Mr. Z. X. Snyder, of Colorado.

It is now in order to vote by ballot unless otherwise ordered on the adoption of the majority report of the nominating committee as amended by the substitute motion.

James M. Greenwood, of Missouri: I wish to move as an amendment to the report, before vote is taken, that the name of Miss Julia Richman, of New York, be substituted for second Vice-President in place of the name of Mrs. Ella Flagg Young.

The motion being duly seconded was carried.

Mr. Greenwood: I now move that the Secretary be instructed to cast the ballot of the members present for the election of the nominees as named in the amended report now before the house.

A. E. Winship, of Massachusetts: I second the motion.

President Joyner: The motion now before the house is that the Secretary be instructed to cast the ballot of this body for the minority report, as amended.

Vote was taken and carried unanimously.

President Joyner: The motion prevails and it is so ordered. The Secretary reports that the vote is so cast. I therefore declare the nominees of the majority report, as amended in two particulars, elected as officers of the Association for the ensuing year.

The next thing in order is the report of the Committee on Resolutions. I recognize Julius I. Foust, of North Carolina, chairman of that committee.

Chairman Foust presented the following:

DECLARATION

The National Education Association, now holding its Forty-eighth Annual Convention in the city of Boston, representing every educational interest of the nation, makes the following declaration of principles:

1. We affirm our faith in the schools of the Republic, believing that it is impossible

for the citizens of a great democracy to develop power and efficiency without the public schools, owned and controlled by the people.

2. A Federal Office of Education is necessary to the best development of education in the several states. The National Bureau of Education has for many years rendered a splendid service in disseminating information and developing educational ideals. During the past few years its increasing service and enhanced efficiency have been marked and stimulating. The plans which are now projected have the earnest approval and the enthusiastic indorsement of the educational interests of the entire country. The members of this Association hereby express their appreciation of the provision made for the better housing of the Bureau and the enlargement of its staff. We further respectfully urge on the Congress an increased appropriation for its support. In particular we urge that in addition to the usual appropriations the sum of $75,000 be made available at the next session of Congress for the organization of a more adequate staff of specialists with particular reference to work in the field.

3. In the judgment of the National Education Association, the time has arrived for the formation of an International Council of Education, to be composed of leading educators from all the principal nations of the globe; the first meeting of the Council to be held in Washington, D.C., at some time during the year 1911. The Association hereby appoints the United States Commissioner of Education, the President, and all living ex-Presidents of the National Education Association, and seven others, to be chosen by the above-designated persons, as a committee to formulate plans for such an International Council and to attend to their execution.

4. The fundamental consideration in any system of schools is the development of inflexible integrity and strong moral character in those receiving instruction. The Republic cannot survive without a citizenship with high ideals of patriotism, duty, and service. This Association, therefore, commends most heartily the growing interest in the moral development of the children of the nation.

5. While the members of this Association are of the opinion that the old courses of study, which had as their chief object the giving of culture to the individual and of transmitting to him the best ideas and ideals of the past, should in no manner be weakened, we, nevertheless, very sincerely indorse the movement to make the course of study offered in our schools more democratic, that they may meet the conditions of our modern commercial and industrial life. However, to meet adequately these new demands imposes upon the schools of the country additional financial responsibilities, and this Association appeals to the nation and to the states for more liberal appropriations for educational purposes in order that this additional work in agriculture, in the trades and industries, and in home economics may be effectively undertaken.

6. No country that is physically weak or physically diseased can attain its possible greatness. All efforts, therefore, to make the condition of our educational plants more sanitary and to impress upon the minds of the children and the citizens of the nation the importance of the proper observance of the laws of health—public and individual—should receive the support and hearty co-operation of American teachers.

7. The abuses attending the employment of children in industrial occupations tend to limit their educational opportunities, and this Association, therefore, indorses all such wise and humane legislation as shall make possible the broadest development of all the children.

8. The character and efficiency of the schools depend in the future, as in the past, upon the character and efficiency of the teachers. The profession of teaching should, therefore, attract men and women of the highest intellectual attainments, broadest culture, most thoro training, and loftiest ideals; to this end the salaries paid American teachers should be commensurate with salaries paid in other professions and in commercial and industrial pursuits.

9. The Association reaffirms its declaration in the year of the last Hague Conference of the pre-eminent duty of the teachers of the United States, and of all the nations, to advance this commanding movement of our time for the world's peace; and we record our profound satisfaction at the noteworthy development of attention to this high interest in our schools and colleges, and the rapid progress of the cause among all peoples. We herewith express our special satisfaction in the recent declaration of the President of the United States in behalf of the settlement by arbitration of all differences whatever between nations. With equal gratitude we indorse the resolution adopted by the Congress of the United States for the appointment of a commission to consider measures for the reduction of the burdensome armaments of the nations.

10. The National Education Association reaffirms its unalterable opposition to any division of the public school funds among private or sectarian schools and believes that

any appropriation from the federal or state treasuries in support of private educational institutions is in direct contravention of the fundamental principles upon which our system of American public-school education has been founded.

Respectfully submitted,

Committee on Resolutions

JULIUS I. FOUST, of North Carolina, *Chairman*
JOSEPH SWAIN, of Pennsylvania
HOMER H. SEERLEY, of Iowa
GEORGE B. COOK, of Arkansas
KATHERINE D. BLAKE, of New York

PRESIDENT JOYNER: The report of the Committee on Resolutions is before you. What will you do with it?

CARROLL G. PEARSE, of Wisconsin: I move that it be adopted as read.

Motion seconded and carried.

CHARLES I. RICE, of Massachusetts: In behalf of the Department of Music Education, which was in consultation on this matter at the time the Committee on Resolutions was also in session, I was instructed to come to this meeting with a resolution as follows:

WHEREAS, The manner of singing our national songs, "America" and "The Star Spangled Banner," differs widely in various cities and even in different schools of the same city; and

WHEREAS, There is therefore a great need of some agreement upon a uniform rendition of these songs;

Be it resolved, That the National Education Association heartily indorses the forms agreed upon by the Department of Music Education during the present convention and recommends the use of these forms in all the public schools.

E. ORAM LYTE, of Pennsylvania: I move that the resolution be referred to the Committee on Resolutions.

Motion seconded and carried.

After announcements, the meeting adjourned.

IRWIN SHEPARD, *Secretary*

Approved,

JAMES Y. JOYNER, *President*

MINUTES OF MEETING OF BOARD OF DIRECTORS OF THE NATIONAL EDUCATION ASSOCIATION FOR THE YEAR 1909–10

The annual meeting of the Board of Directors was called to order by President James Y. Joyner in the Parish House of Trinity Church, at 9:30 A.M., July 4, 1910. The following members responded to roll-call:

James Y. Joyner, North Carolina; Lorenzo D. Harvey, Wisconsin; Arthur H. Chamberlain, California; Irwin Shepard, Minnesota; Thomas W. Bicknell, Rhode Island; A. W. Akers, representing the Board of Education of Nashville, Tennessee; Elmer Ellsworth Brown, District of Columbia; Edwin G. Cooley, Illinois; Oscar T. Corson, Ohio; James M. Green, New Jersey; James M. Greenwood, Missouri; Eliphalet Oram Lyte, Pennsylvania; Nathan C. Schaeffer, Pennsylvania; Geoffrey Buckwalter, representing the Teachers' Institute of Philadelphia, Pa.; A. J. Matthews, Arizona; George B. Cook, Arkansas; Duncan MacKinnon, California; Charles E. Chadsey, Colorado; Charles H. Keyes, Connecticut; Miss Clem Hampton, Florida; J. Stanley Brown, Illinois; Thomas A, Mott, Indiana; John MacDonald, Kansas; W. H. Bartholomew, Kentucky; A. C. Willison, Maryland; Irving O. Palmer, Massachusetts; E. E. Scribner, Michigan; S. L. Heeter, Minnesota; E. E. Bass, Mississippi; Howard A. Gass, Missouri; W. E. Harmon, Montana; M. H. Kinsley, New Jersey; James E. Clark, New Mexico; Augustus S. Downing, New York; W. S. Snipes, North Carolina; J. W. MacKinnon, Ohio; Arthur Grant Evans, Oklahoma; Herbert W. Lull, Rhode Island; David B. Johnson, South Carolina; Freeman H. Hoff, South Dakota; George H. Carpenter, Texas; Joseph Eggleston, Virginia; Henry B. Dewey, Washington; Morris P. Shawkey, West Virginia; Carroll G. Pearse, Wisconsin.

Directors answering to roll-call, forty-five.

The Secretary reported that several state directors who were unable to attend the meeting had written asking to have other active members from their respective states appointed in their places.

Upon motion, duly seconded, the following appointments to fill vacancies were made:

John W. Abercrombie, of Alabama, to succeed Director Samuel S. Murphy, absent.
Charles S. Meek, of Idaho, to succeed Director S. Belle Chamberlain, absent.
O. P. Bostwick, of Iowa, to succeed Director Frank L. Smart, absent.
Mrs. L. C. Booth, of Nevada, to succeed Director Romanzo Adams, absent.
C. R. Travis, of North Dakota, to succeed Director Thomas A. Hillyer, absent.
Gerard Taillandier, of Oregon, to succeed Director E. D. Ressler, absent.
G. N. Child, of Utah, to succeed Director W. S. Rawlings, absent.
T. P. Bailey, of Tennessee, to succeed Director I. C. McNeill, absent.
W. M. Davidson, of Nebraska, to succeed Director A. H. Waterhouse, absent.
Arthur Grant Evans, of Oklahoma, to succeed Director Lynn Glover, absent.

The following newly elected members responded to roll-call:

J. W. Abercrombie, Alabama; O. P. Bostwick, Iowa; W. M. Davidson, Nebraska; C. R. Travis, North Dakota; Gerard Taillandier, Oregon; Mrs. L. C. Booth, Nevada.

The total number of directors present at the meeting, fifty-one.

The Secretary stated that the minutes of the last meeting had been published in the Denver volume, and asked if the directors desired to have them read.

Upon motion by Director L. D. Harvey, of Wisconsin, duly seconded, the reading of the minutes was dispensed with, and they were approved as printed in the Denver volume of *Proceedings*.

In the absence of the chairman of the Board of Trustees, the President requested the vice-chairman, James M. Greenwood, to read the report of the Board of Trustees. The report was read and printed copies distributed to the directors present.

On motion of Director E. E. Scribner, of Michigan, the report of the Board of Trustees was accepted and adopted, and referred to the active members of the Association.

The report of the Treasurer was read by Arthur H. Chamberlain, of California, and upon motion duly seconded was received, approved, and referred to the business meeting of the active members. Printed copies of the same were distributed to the members present.

Secretary Irwin Shepard reported that, in accordance with instructions by the Board of Directors July 5, 1909 (see p. 39 of the Denver volume) the report of the Committee on the Place of Industries in Education had been printed and copies distributed to the active members.

On motion duly seconded the action of the Secretary was approved.

SPECIAL REPORT BY THE SECRETARY ON THE CONSOLIDATION OF DEPARTMENTS

The members of this Board will doubtless remember their action at the meeting held in Denver, Colo., July 8, 1909, in adopting with slight amendments the Report of the Committee on Reorganization of Departments.

After the convention was closed many letters of protest came to the members of the Executive Committee which was charged with the execution of the provisions of the report. It was urged in these letters that notice of the proposed report should have been published in order that officers and members of the various departments of the Association might have been present and heard in behalf of the departments in which they were respectively interested. Other difficulties appeared to the Executive Committee to the immediate execution of the plan for consolidation.

At a meeting of the Executive Committee in New York City, October 9, 1909, the following resolution was presented and its adoption moved by Dr. Nicholas Murray Butler:

WHEREAS, The execution of the plan for consolidating the departments was committed by the Board of Directors to the Executive Committee; and

WHEREAS, The departments as heretofore existing had organized for the year 1909–10 before the action of the Board of Directors was taken consolidating certain departments and discontinuing others, and the officers-elect feel that they should be permitted to hold their usual meetings in 1910; therefore be it

Resolved, That the Executive Committee do hereby request the Board of Directors to vote, by correspondence, on or before November 1, on the question whether the Executive Committee shall be empowered to postpone the execution of the new plan of consolidated departments until after the meeting of 1910 is held.

Seconded, and adopted by unanimous vote.

The following motion was also adopted by a unanimous vote:

Resolved, That, in case of a vote of approval by the Board of Directors, we, as the Executive Committee, do hereby agree to postpone the execution of the plan of consolidation until after the convention of 1910.

Will you, therefore, kindly vote on the question submitted by filling out the inclosed blank memorandum, and mail the same in the accompanying postpaid return envelope at an early date, certainly before October 31?

This action was duly transmitted by the Secretary to the members of the Board of Directors in a circular letter dated October 16, 1909, with a blank form for the desired vote by correspondence.

The vote of the Board of Directors resulted as follows:

Total number of directors of the National Education Association .		78
Number of directors voting		66
Number of directors voting in favor of postponement of consolidation	62	
Number of directors voting against postponement of consolidation	4	66
Number of directors not voting		12

Accordingly the Secretary, under instructions of the Executive Committee, transmitted the result of the vote to the officers of the various departments, with the result that all departments are represented on the program for the Forty-eighth Annual Convention, excepting the following:

1. The Art Education and Manual Training departments had formally requested the Board of Directors to authorize them to consolidate and to be known as the Department of Manual Training and Art Education. This union was authorized by special

action of the Directors at Denver and was not included in the vote for postponing the plan for consolidation.

2. The Departments of Technical Education and of Indian Education had made formal requests for discontinuance, which requests were granted. These departments have ceased to exist and are not represented on the program of the convention.

Respectfully submitted,

IRWIN SHEPARD, *Secretary*

Upon motion duly seconded the action of the Executive Committee was approved, and it was agreed that the Board should adjourn to meet at 2:30 Tuesday afternoon, July 5, to hear representatives of the various departments making complaint, and take final action thereon; and the Secretary was instructed to notify the officers of all departments of the Association of this action.

Secretary Shepard made announcement that at 3:30 this afternoon (July 4) the first general session of the convention would be held at the Stadium, Cambridge, and that as the state meetings of active members to elect members of the nominating committee are fixed by the By-Laws for 5:30 this afternoon, it had been decided by the Executive Committee that these meetings be held in the Colonnade of the Harvard Stadium immediately after the close of the session.

DIRECTOR A. S. DOWNING, of New York: In order that there may be no question of the procedure as to the holding of these meetings at other places than at the various state headquarters, I move that this Board of Directors authorize each director for his own state to designate the headquarters temporarily for that state at the Stadium under the arch of the Colonnade labeled with the state's name. (Seconded and carried.)

PRESIDENT JOYNER: It has been suggested that I call the attention of the directors to the fact that none but active members can vote at the state meetings and that the directors would do well to call the attention of the members meeting this afternoon to that fact before the voting begins, as it might save embarrassment on the part of some associate members who might not know that fact.

We will now hear a report by Vice-Chairman James M. Greenwood, of the Board of Trustees.

JAMES M. GREENWOOD, of Missouri, Vice-Chairman of the Board of Trustees: *Mr. President and Members of the Board of Directors:* A new question has arisen in the Board of Trustees that has never been passed upon, and my object is to present the facts at this time. The Board of Trustees is composed of five members, four of whom are elected by the Board of Directors; the fifth member being the President of the Association, *ex officio*. A situation confronts us, concerning which we cannot agree unanimously in regard to a question of law; as to the question of facts we are agreed. The situation is simply this: At the Los Angeles meeting Superintendent Carroll G. Pearse, of Milwaukee, was elected for one year to fill an unexpired term in the Board of Trustees. The annual meeting following this election was held in Cleveland, Ohio. The members of the Board of Trustees received notice of this annual meeting and the meeting was held at the Hollenden Hotel. Superintendent Pearse was not present, but when the Board of Directors met later in the week Superintendent Pearse was re-elected for the full term of four years.

The next annual meeting was held in Denver last year. At the time that the Board of Trustees were to meet, Superintendent Pearse and myself were engaged in committee work in connection with the National Council. The other three members of the Board of Trustees went out at the hour appointed and held the meeting of the Board of Trustees. It was not the intention of Trustee Pearse and myself to be absent, but we were absent.

Our Articles of Incorporation, Section 6, reads as follows: "The absence of a trustee from two successive annual meetings of the board shall forfeit his membership."

A meeting of the Trustees was held in Chicago on the 13th day of April, 1910. Of the members of the Board of Trustees, the following were present: Trustee Butler, Trustee Brown, and Trustee Greenwood. Absent: Trustee Joyner. Chairman Butler had obtained legal advice from Mr. John B. Pine, of New York City, who had been the attorney of the Board of Trustees, that the matter should go to the Board of Directors and the question of a vacancy be determined by them; but in a subsequent statement, copy of which I have, he expressed the opinion that it belonged primarily to the Board of Trustees to determine and declare a vacancy within its own body; that is, when vacancies occur,

by resignation or otherwise, the Trustees had the authority to declare that a vacancy exists. President Joyner and Trustee Pearse hold that a vacancy does not exist, because they believe that the two absences were not cumulative. Others of us hold that the Board of Trustees is a continuous body and that the absences were cumulative. This is the case as briefly as I can state it. Trustee Brown also questions whether these two absences ought to be considered cumulative absences.

Without going into a lengthy discussion and detaining you, I will say that we are trying to sell a piece of property in Chicago that belongs to the National Education Association, and I think that it would be better, and safer in a legal sense, either to re-elect Mr. Pearse, or to elect somebody else, to fill the unexpired term, so that there can be no shadow of doubt in regard to the legal membership of the board.

Under Section 6 of the Act of Incorporation you will find that the Board of Directors has a clear right to fill vacancies in the Board of Trustees. That section reads in part as follows: "All vacancies occurring in said Board of Trustees, whether by resignation or otherwise, shall be filled by the Board of Directors for the unexpired term; and the absence of a trustee from two successive annual meetings of the board shall forfeit his membership."

PRESIDENT JOYNER: I am going to ask Vice-President Harvey to take the chair.

Vice-President Harvey takes the chair.

PRESIDENT JOYNER: It was agreed to lay this whole matter before the Board of Directors and let them take the responsibility of a decision. A statement of the facts has been made, and as it was agreed that a statement of the views entertained by the members of the Board of Trustees who could not agree should also be made, I come before you to make a statement here.

I want to say at the outset, gentlemen, that the Board of Trustees ever since its arrival has labored over this matter, with the earnest hope that three honest men entertaining different views when they started out might after a full discussion agree, rendering it unnecessary to trouble you gentlemen with it. We finally failed to do so, and then declared that the only thing to do was to come before you and make a calm, honest statement of the facts and throw the responsibility of the whole matter upon you. I trust that the decision of this matter will be approached in exactly the same spirit that the members of this Board of Trustees have tried to approach it and decide it, and if, in the final outcome, we cannot agree here we will differ honestly, but do it charitably and bow to the will of the majority, whatever that may be.

You have had the facts stated before you. The record shows two absences on the part of Trustee Pearse, one occurring in the term of office of one year to which he was elected to fill an unexpired term, the other occurring in his new term of office, to which he was elected for four years, subsequent to the first absence. The first point of conflict among the members of the Board was on the question whether these absences in different terms of office should be cumulative and thereby cause a forfeiture of office. You have had Mr. Greenwood's view of the matter, honestly stated. I want to state the view of Mr. Brown and myself on that matter—I believe Mr. Brown finally came to the same conclusion.

My view from the first was, before I had had any legal counsel or any advice from Attorney Pine or anybody else, that no vacancy existed: but, if any vacancy had arisen, that the Board of Directors in whom was vested the power to elect a Board of Trustees would alone have the power to declare a vacancy as well as to elect a successor, and that, therefore, the Board of Trustees had no power, even if Trustee Pearse had been absent, within the meaning of the Act of Incorporation, from two successive annual meetings, to act upon the matter themselves, but should refer it to the Board of Directors for final decision. That was my view of that matter. Mr. Brown did not agree to that.

Now, as to that second point: the record showed that one of these absences occurred in one term of Trustee Pearse's office, and the other occurred in another term of his office. My view was that those absences could in no sense be cumulative, and that as the record showed that Superintendent Pearse had been absent but once during his present term of office, to which he was newly elected for a four-year term, he had not forfeited his membership under this article of the Constitution, which says that if a member is absent from two consecutive annual meetings he shall forfeit his membership. That was my view, and entertaining that view I felt that any declaration on the part of the Board of Trustees that Trustee Pearse's seat was vacant was not correct, on account of the fact that these absences occurred in different terms of Trustee Pearse's office, that they were not cumulative, and therefore did not operate under this article of the Constitution as a forfeiture of his membership in the Board of Trustees. That was the point about which we differed, Trustee Brown and myself entertaining the same view for the

reasons which I have stated, Trustee Butler and Trustee Greenwood taking the other view of the matter.

There was another question of fact also on which we did not pass because we could not agree upon the other points, viz., What constitutes an annual meeting? Whether in the correct meaning of the word "annual" Superintendent Pearse had been absent from two "annual meetings." I think President Brown was of the opinion that the meetings referred to were annual meetings. There was a doubt in my mind as to what was the annual meeting in the absence of any declaration or definition of what an annual meeting is.

President Joyner resumed the chair. Then followed a general discussion of the question whether the clause of the Act of Incorporation referring to this matter should be or should not be interpreted to mean that the two absences should occur within one and the same term of office to constitute forfeiture of membership.

President Joyner recognized Director A. C. Willison, of Maryland, who offered a motion reading as follows:

I move that it is the sense of this body that the phrase of the Act of Incorporation at the close of Section 6 refers to a single term of office and that the two successive absences should occur within a single term of office to constitute a forfeiture of membership.

Seconded by Director George H. Carpenter, of Texas.

Several conflicting motions and substitutes were offered in the general discussion that followed, but were declared out of order by President Joyner, who held that no action could be taken to elect a successor to Mr. Pearse as a member of the Board of Trustees, or to re-elect him, until the directors had officially declared that a vacancy exists in the said board.

Director L. D. Harvey, of Wisconsin, called attention to the fact that Section 5 of Article IV of the By-Laws provides for forfeiture of membership in the National Council in almost precisely the same language as that clause of the Act of Incorporation under consideration, viz.:

The absence of a member from two successive annual meetings of the Council shall be considered as equivalent to resignation of membership and the Council shall fill vacancies caused by absence from the Council as herein defined.

Director Harvey stated that this By-Law had been construed for many years as cumulative and that many prominent members of the Council had lost their membership when one of two consecutive absences had occurred in a previous consecutive term. He urged that this fact had an important bearing on the question under consideration and that the same interpretation should be applied to the language of the Act of Incorporation as has long prevailed without question in the case of the quoted By-Law applying to membership in the National Council.

Director Carroll G. Pearse, of Wisconsin: I have been embarrassed for some time. I cannot conceive that I am not a member of the Board of Trustees to which I was elected two years ago. However, I wish to save you all embarrassment in this matter. It is not vital that I be a member of the Board of Trustees. There are many others who are as capable of filling that office as I am. Therefore I ask you to permit me to offer my resignation as such member, and trust that you will formally accept the same, after which you will be free to elect to that office any member whom you may choose.

Director Willison: I beg leave, with the consent of the gentleman who seconded it, to withdraw my motion in order that the resignation of Mr. Pearse may be considered.

President Joyner: There is now nothing before this house but the tendered resignation of Mr. Pearse.

Director E. E. Scribner, of Michigan: I move that Mr. Pearse's resignation be accepted.

The motion was duly seconded and carried.

Director W. H. Bartholomew, of Kentucky: I move that Director Carroll G. Pearse be elected to fill the vacancy in the Board of Trustees for the unexpired term.

This motion was duly seconded and carried, and President Joyner announced that Mr. Pearse was unanimously elected a member of the Board of Trustees for the unexpired term of office caused by his resignation.

Meeting adjourned until 2:30 p.m., Tuesday, July 5, 1910, at Parish House, Trinity Church, Boston, Mass.

Irwin Shepard, *Secretary*

Approved,

James Y. Joyner, *President*

MINUTES OF ADJOURNED MEETING OF BOARD OF DIRECTORS OF THE NATIONAL EDUCATION ASSOCIATION FOR THE YEAR 1909–10

The adjourned meeting of the Board of Directors for 1909–10 was called to order by President James Y. Joyner in the Parish House of Trinity Church, at 2:30 P.M., July 5, 1910.

The following directors responded to roll-call:

James Y. Joyner, North Carolina; Lorenzo D. Harvey, Wisconsin; Arthur H. Chamberlain, California; Irwin Shepard, Minnesota; John W. Cook, Illinois; James M. Green, New Jersey; J. M. Greenwood, Missouri; John W. Abercrombie, Alabama; George B. Cook, Arkansas; Charles E. Chadsey, Colorado; Charles H. Keyes, Connecticut; Miss Clem Hampton, Florida; J. Stanley Brown, Illinois; Thomas A. Mott, Indiana; John MacDonald, Kansas; Payson Smith, Maine; A. C. Willison, Maryland; Irving O. Palmer, Massachusetts; E. E. Scribner, Michigan; E. E. Bass, Mississippi; W. M. Davidson, Nebraska; Augustus S. Downing, New York; Gerard Taillandier, Oregon; Reed B. Teitrick, Pennsylvania; David B. Johnson, South Carolina; T. P. Bailey, Tennessee; Henry B. Dewey, Washington; Morris P. Shawkey, West Virginia; Carroll G. Pearse, Wisconsin.

Directors present, twenty-nine.

The Secretary stated that every effort had been made to reach all the different heads of departments to inform them of this meeting, and he believed all of them had received notice of the meeting.

The Report of the Committee on Reorganization of Departments, which was adopted at the Denver meeting, was read by the Secretary. (This report appears on p. 43 of the *Yearbook* for 1909–10.) Attention was called to the Special Report of the Secretary presented at the meeting of the previous day.

DIRECTOR T. A. MOTT, of Indiana: Would a motion be in order to suspend for another year the action of the Board of Directors at Denver consolidating departments, which was suspended for one year by a correspondence vote of the Directors?

PRESIDENT JOYNER: I think so. We have the same right to do that, I assume, as we had by referendum vote to suspend for one year.

DIRECTOR JAMES M. GREEN, of New Jersey: If there is no vote to that effect, then the action taken at Denver goes into effect at this time?

PRESIDENT JOYNER: If no action to the contrary is taken at this meeting, the report of the Committee on Consolidation goes into effect now and will be in effect next year. It now becomes operative unless this Board of Directors, who have the power to do so, shall suspend it again or reverse its action of a year ago.

DIRECTOR JAMES M. GREEN, of New Jersey: As a member of the Committee on Reorganization of Departments, I desire to state some of the reasons which guided the committee in making its report. I was President of the Association in 1901 and it was owing to certain recommendations in my address as President that this committee was created. The debate on the question in the committee at Denver was long and earnest. It was believed by the committee that we had too many departments, some of which were logically related to other departments, as Art to Manual Training, Business Education to Secondary Education, etc. It was not the thought of the Committee to suppress, cut off, or discourage the consideration of the problems of business education, art education, physical training, or any other line of educational work, but to bring about such unification of departments as to prevent much of the duplication and confusion which now exists, and more clearly define the field of each department.

A general discussion followed reviewing the conditions which led to the appointment of a Committee on Reorganization of Departments at the Detroit Convention in 1901

and the advantages of the plan for consolidation as proposed by the committee and adopted by the directors at their meeting in Denver, July 8, 1909. Attention was also called to the opposition to the action of the Board of Directors thereon, which was caused in part by the general interest of the members in the various departments as related to their respective lines of school work, and in part by the fact that no notice of such a report had been given in advance and no opportunity extended to the officers and others interested in the several departments to be heard in behalf of the continuance of the same.

Director Thomas A. Mott, of Indiana, presented the following resolutions which were duly seconded:

Resolved, That the action of this Board taken at the Denver meeting on the recommendation of the Committee on the Reorganization of Departments of the National Education Association be and is hereby suspended for one year; and

Resolved, That the heads of departments affected by the report of the committee be invited to a conference to be held in this room, at 8:30 A.M., July 6, 1910, for the purpose of effecting such consolidations as may appear advisable at this time.

A brief discussion of these resolutions followed, until President Joyner suggested that the representatives of the several departments who were present by invitation of the Board of Directors should be heard.

A motion was then made and carried to the effect that the department representatives be heard. In accordance with this motion President Joyner introduced the following:

KENYON L. BUTTERFIELD, President of the Department of Rural and Agricultural Education: Five years ago, at a meeting of the Association of American Agricultural Colleges and Experiment Stations, which is made up of representatives of all the agricultural colleges in the country, I introduced a resolution asking the National Education Association to establish a Department of Rural and Agricultural Education. I felt at that time, as I feel today, that the National Education Association is the proper body to head the unified movement for agricultural education in this country. The Association of the American Agricultural Colleges has developed very largely as a meeting of demonstrators to consider questions of general policy, and does not bring together as a rule the teachers of agriculture even in the colleges themselves, and has no connection with that growing body of men and women who are teaching agriculture in the public schools.

I take it that was the beginning for the Association of this department. It was organized soon after that thru the efforts of Mr. D. J. Crosby, of the Department of Agriculture at Washington, D.C., who is here, and who I hope may be allowed to say a word on this same subject. I feel today, just as I did then, that this Association ought to recognize definitely the whole movement for the upbuilding of the rural community thru the schools. The department includes the whole field of the rural schools. It is the Department of Rural and Agricultural Education. The rural-school problem involves nearly half the public-school interests in the country. Furthermore, the work in agricultural education is going forward by leaps and bounds. It was reported a year ago at Portland that there were three hundred agricultural high schools already established, and the number will soon be legion.

These facts show, I think, the significance of the work which is represented by this department. Whether that work has been adequately represented by the department in the meetings that have been held, I cannot say. At our meeting this morning we had only about a hundred people. Perhaps that is not a sufficient attendance to justify a separate department, but those one hundred people came from Maine to Montana, and from Michigan to South Carolina. They represented agricultural high schools, colleges, and normal schools; I think the largest attendance of agricultural-college men that has ever been gathered at an agricultural association was present at this meeting this morning.

It is not very long since the rural-school movement as a definite thing has come to the front—not more than eight or ten years. The problems are not by any means all solved. This year we gave particular attention to two or three large questions that are coming up before our colleges and high schools. The discussion this morning was of intense interest, and I think the meeting thoroly justified itself.

Now, if the National Education Association wants to represent the total agricultural interests, if it wants to be the gathering-place of men and women especially interested in this phase of education, then it seems to me it would be extremely unwise definitely to tie this department up with any other. By the report of the committee, our department

is to be tied up with the Department of Manual Training, and the new department is to be called the Department of Industrial Education. That is perfectly logical. Agricultural education is definitely a part of the great industrial educational movement. However, we have had this day a joint session, but not a joint session with the Department of Manual Training; we held a joint session with the Department of Science Education and with the Department of Secondary Education. Another year it may be wise to hold a joint session with other departments. Now, if you tie us up permanently with the Department of Industrial Education, I feel very strongly that you are not going to give a chance for the National Education Association, thru this department or thru any other department that is definitely a part of the Association, to take leadership in this general movement for rural and agricultural education.

If the concern of the directors is chiefly to eliminate departments to save expense, I do not see why this thing should not go thru; but, if the Board of Directors has an ambition to make the National Education Association the organization which shall take the leadership, in so far as conferences and discussions and meetings can take leadership, for developing our rural schools, and especially for the enlargement of the agricultural education movement, I think you will make a serious mistake if you eliminate the Department of Rural and Agricultural Education.

PRESIDENT JOYNER: As I have another meeting which it is necessary for me to attend, I shall be obliged to ask to be excused, and will call Vice-President Harvey to the chair.

Vice-President L. D. Harvey, of Wisconsin, took the chair.

LINNAEUS N. HINES, Vice-President of the Department of School Administration: I should like to ask whether it would not be fair to the Department of School Administration, as well as the other departments, to let it take a vote as to whether it wants to be consolidated with any other department. The sentiment in our department is opposed to the action that was taken at Denver. The members want to go right ahead with a program of their own at this summer meeting. I think it would be fair to our department to let it vote on the question, and if it wants to go on with a program of its own, no matter if there are only twenty members there every year, it should be allowed to do so.

DURAND W. SPRINGER, for the Department of Business Education: The members of the Department of Business Education during the past year have been in correspondence, and we come to you with a definite opinion that we do not like the combination that you propose.

Prior to 1892 there was an organization known as the Business Educators Association, which held summer meetings, and contained as its members the teachers of commercial education in the United States. Application was made to your body for admission as a department. We were admitted. Since 1893 it has been my privilege to attend all the meetings except two. We have three members now where we had one in 1893. We started with eight. Today we have over a hundred active members who are strictly interested in business education. We began with a department meeting that had present less than twenty members. Today we had two hundred present. We have been growing. During that time we have been doing some things: one of which was that, as a result of the work of a committee, we issued a department bulletin. We did not ask for any funds for the printing of that bulletin, since as a department we had not become large enough to come to you and ask for appropriations. It must have been pretty fair in quality, for we sold over three thousand copies to those interested in commercial education. We do believe at the present time that it would not be fair to the National Education Association, and it would not be fair to the Business Section, that it should be blotted out. We are here. You absorbed an existing organization, and now merely to blot us out is hardly fair. I do not believe the National Education Association can afford to say, "We can only have so many Departments." That is like taxpayers saying they will not pay the taxes because they do not want the tax-rate to advance beyond a certain point.

There are problems which we have not as yet solved, and which we have not yet worked out, and we believe that there are certain things we can do by ourselves which we cannot do in consolidation. We are your children by adoption, and we do not want to be thrown out, even tho you should adopt us again.

EDWIN WHITE GAILLARD, President of the Library Department: In taking up this question of consolidation, I wish to say that the Library Department has not been consolidated at all by the action of the Board of Directors at Denver. It has been absolutely wiped out. The schools of the country apparently have no further use for the Library Department.

The Library section was originally established thru the influence of Dr. James H. Canfield and Mr. Melvil Dewey, to bring about a co-operation between the public library

and the elementary school. That propaganda has been far advanced. An entirely new factor has entered into this question which did not appear eight years ago, but has come as a result of this closer co-operation between the schools and libraries. There has come into existence a body of school librarians. There is no place for these librarians of school libraries to meet. The American Library Association has its meetings at times and places where it is impossible for a school man to go. Some years the American Library Association meets when the schools are in operation and the librarians cannot go. Sometimes there is no discussion of matters relating to schools in the American Library Association meetings. We submit for the benefit of this growing body of school librarians that there should be some place of meeting where they can come together and discuss their own separate problems and problems which run all thru the schools. If the department is abolished there is no place for its continuance or the spirit of its continuance. This morning I counted more than one hundred and twenty persons present. They were divided very nearly equally between school librarians, teachers who do not attend the American Library Association meetings, and public librarians. The attendance geographically ranged from the District of Columbia to Wyoming, while Tennessee, New York, New Jersey, Missouri, Massachusetts, Maine, and Canada were represented. There is, then, a growing body of persons who desire to come together and for whom no other provision is made.

After further discussion Director Downing, of New York, moved as a substitute for the pending motion of Director Mott that the action of the Board of Directors of last year adopting the Report of the Committee on Consolidation be rescinded. Seconded and carried.

Director John W. Cook, of Illinois, moved that the whole subject-matter of the reorganization of departments be re-referred to the original committee on that subject.

Vice-President Harvey ruled the motion out of order on the ground that the directors, by rescinding their action taken at the Denver meeting, had discharged the committee which by the same action had been continued.

Director Keyes, of Connecticut, then moved that the original committee be appointed anew and that the entire question of reorganization of departments be re-referred to this original committee on that subject with the addition of the two members which had been added to the committee at the Denver meeting, viz., the retiring President, Director L. D. Harvey, of Wisconsin, and Director James M. Green, of New Jersey. This motion was seconded and carried by a unanimous vote.

The following are the names of the Committee:

Alfred Bayliss, of Illinois, *Chairman*

Ben Blewett, of Missouri	Nicholas Murray Butler, of New York
L. D. Harvey, of Wisconsin	James M. Green, of New Jersey

On motion of Carroll G. Pearse, of Wisconsin, it was ordered that the consolidation of the Departments of Art Education and Manual Training remain unchanged by the motion to rescind which had just been carried, since those two departments had by their own action requested the Board of Directors to authorize them to unite as the Department of Manual Training and Art Education. Seconded and carried.

After announcements, the meeting adjourned.

IRWIN SHEPARD, *Secretary*

Approved,

JAMES Y. JOYNER, *President*

MINUTES OF THE MEETING OF THE NEW BOARD OF DIRECTORS FOR 1910–11

The meeting was called to order at 4:30 P.M., Thursday, July 7, 1910, in the Assembly Hall of the Parish House of Trinity Church, Boston, Mass., by President-elect Ella Flagg Young.

The following members responded to roll-call:

Ella Flagg Young, Illinois; James Y. Joyner, North Carolina; Irwin Shepard, Minnesota; Durand W. Springer, Michigan; James M. Greenwood, Missouri; Elmer Ellsworth

Brown, District of Columbia; Nathan C. Schaeffer, Pennsylvania; A. R. Taylor, Illinois; Lorenzo D. Harvey, Wisconsin; John W. Abercrombie, Alabama; A. J. Matthews, Arizona; George B. Cook, Arkansas; Duncan MacKinnon, California; Frederick A. Verplanck, Connecticut; George W. Twitmyer, Delaware; P. M. Hughes, District of Columbia; Miss Clem Hampton, Florida; Mrs. F. S. Whiteside, Georgia; Charles S. Meek, Idaho; J. Stanley Brown, Illinois; T. A. Mott, Indiana; O. P. Bostwick, Iowa; John MacDonald, Kansas; W. H. Bartholomew, Kentucky; A. C. Willison, Maryland; E. E. Scribner, Michigan; S. L. Heeter, Minnesota; E. E. Bass, Mississippi; Howard A. Gass, Missouri; M. H. Kinsley, New Jersey; J. E. Clark, New Mexico; Augustus S. Downing, New York; W. S. Snipes, North Carolina; Nelson Sauvain, North Dakota; W. C. Canterbury, Oklahoma; Reed B. Teitrick, Pennsylvania; D. B. Johnson, South Carolina; Freeman H. Hoff, South Dakota; J. J. Keyes, Tennessee; George H. Carpenter, Texas; H. B. Dewey, Washington; Morris P. Shawkey, West Virginia; Carroll G. Pearse, Wisconsin.

Directors present, forty-three.

The Secretary presented the following letter:

BOSTON, MASS., July 6, 1910

PRESIDENT JAMES Y. JOYNER,
National Education Association

Dear Sir: I wish to apply for the Territory of Hawaii to have representatives on the Board of Directors of the National Education Association. Hawaii is a territory, a little larger in area than the state of Connecticut, with the privileges and responsibilities that pertain to the territories of Arizona and New Mexico. She is not a dependency like Porto Rico or the Philippines. We have a number of active members of the Association.

The public-school system of Hawaii comprises 154 schools with an enrollment of 18,564 pupils and employing 476 teachers; the private schools number 51, enroll 4,881 pupils, and employ 218 teachers.

Respectfully submitted,
(Signed) PERLEY L. HORNE

DIRECTOR E. E. SCRIBNER, of Michigan: I move that the request in the letter presented be granted, and that the Board of Directors proceed to elect a director for Hawaii.

Seconded and carried.

DIRECTOR D. B. JOHNSON, of South Carolina: I move that the writer of the letter, Mr. Perley L. Horne, be elected as director from Hawaii.

Seconded and carried.

PRESIDENT YOUNG: The next order of business is the appointment of a committee to nominate members for the National Council. How do you wish this committee to be appointed?

On motion the Chair was instructed to appoint a committee of five members. The following committee was appointed:

COMMITTEE ON MEMBERSHIP IN THE COUNCIL

James M. Greenwood, of Missouri, *Chairman*

Nathan C. Schaeffer, of Pennsylvania	Augustus S. Downing, of New York
J. Stanley Brown, of Illinois	Miss Clem Hampton, of Florida

PRESIDENT YOUNG: The next order of business is a communication from the Department of Superintendence.

The Secretary read the following communication:

BOSTON, July 6, 1910

To the Directors of the National Education Association:

GENTLEMEN: The committee authorized by the Department of Superintendence to devise a system of uniform educational statistics has had its first meeting and outlined its plan of work. It is thought necessary to plan for at least two meetings of this committee before next February. It will also be necessary to gather material concerning present systems of reporting throughout the United States. In view of the expense which will be incurred by the committee, we respectfully request an appropriation of five hundred dollars to cover necessary expenses.

Respectfully yours,
PAYSON SMITH, *President*
G. D. STRAYER, *Secretary*

Approved:
W. M. DAVIDSON, President of the Department of Superintendence.

After brief discussion, in which the plan of the committee was outlined, Director Joyner moved that the Board of Directors appropriate $500, or as much thereof as might be necessary, for the expenses of this committee, the appropriation being subject to the approval of the Committee on Appropriations and Investigations of the National Council. Seconded and carried.

Director A. R. Taylor, of Illinois, presented a report by the Committee on a Universal System of Key Notation. The report was not read, but Director Taylor urged that the Board of Directors authorize the Secretary to print the report and send it to the active members of the Association at an early date as a report of progress. It was stated that the committee hoped to have the report in final form for presentation to the Department of Superintendence at its meeting in February next.

After some discussion a motion was made, seconded, and carried that the Secretary be instructed to print and distribute the report as requested, subject to the approval of the Committee on Investigations and Appropriations of the National Council.

President Young: The next order of business is the election of a member of the Board of Trustees to succeed Nicholas Murray Butler, of New York, whose term expires with this meeting.

Director E. E. Scribner, of Michigan: I rise to nominate Dr. Nicholas Murray Butler to succeed himself as a member of the Board of Trustees for the term of four years.

The nomination was duly seconded.

Director Augustus S. Downing, of New York: As director from the State of New York I have a very unpleasant duty to perform. Before President Butler sailed for Europe he requested me to say to this Board of Directors, in case there should be a desire to re-elect him, that he should decline to accept re-election.

H. B. Brown, acting chairman of the Board of Trustees, asked permission to make a statement to the directors. On motion, Trustee Brown was given the floor.

Trustee H. B. Brown: I should feel that I was not doing my duty by the Board of Trustees and by the Association if I did not speak at this time. I have been associated with President Butler on the Board of Trustees for the past three years. He has been a member continuously for twelve years or more. I have been deeply impressed by his faithfulness and devotion to the interests of the Association, especially in the care of its Permanent Fund. His knowledge of financial matters and safe judgment in making investments is shown in the high character of the investments of this Permanent Fund. I do not think there is another member of this Association who could fill his place as Chairman of the Board of Trustees and in guiding the Board in the care and investment of its Permanent Fund.

In spite of what the director for New York has said, I wish to suggest that there has been at no time in the history of the Association so great a need for the sane and wise counsels of President Nicholas Murray Butler as at present. He is more than any other man familiar with the history and arrangement of its funds, and with the spirit and genius of the Association.

It would be little short of a calamity for the Association, and for the Trustees, at this time, to be deprived of his services; and I hope that this statement may be placed in the minutes of the Board of Directors, and that President Butler may be unanimously re-elected to the Board of Trustees for the full term, and that a copy of the minutes be transmitted to President Butler with the notice of his re-election.

President Young—to Director Downing: How reliable is your information that President Butler will decline to accept re-election?

Director Downing: I have delivered the message to the Board of Directors, sent to me in a letter by President Butler, as I agreed to do. I can say no more, deeply as I regret the necessity for delivering such a message.

President Young: Do you wish to submit that letter as a part of the record of this meeting?

Director Downing: I do not.

Director Joyner: In view of the nomination of President Butler to succeed himself, I move that the Secretary be instructed to cast the ballot of the Board of Directors

for the election of Trustee Nicholas Murray Butler to succeed himself for the term of four years.

The motion, being duly seconded, was carried by a unanimous vote. The Secretary reported the ballot cast according to instructions, and President Young declared President Butler re-elected as a member of the Board of Trustees for four years.

The committee appointed to nominate members of the National Council presented its report as follows:

To the members of the Board of Directors:

Your committee reports the following-named nominations to fill vacancies which have occurred for the reasons stated:

TO FILL VACANCIES OCCURRING BY REASON OF ABSENCE FROM TWO SUCCESSIVE MEETINGS

William P. Burris, Cincinnati, Ohio, to succeed John J. Doyne, Little Rock, Ark.—term to expire in 1911.

Francis G. Blair, Springfield, Ill., to succeed Livingston C. Lord, Charlestown, Ill.—term to expire in 1912.

Walter R. Ranger, Providence, R.I., to succeed Ernest C. Moore, Los Angeles, Cal.—term to expire in 1911.

J. A. Smith, Deland, Fla., to succeed Sarah Louise Arnold, Boston, Mass.—term to expire in 1912.

Thomas M. Balliet, New York, N.Y., to succeed Ida C. Bender, Buffalo, N.Y.—term to expire in 1913.

W. E. Harmon, Helena, Mont., to succeed O. J. Craig, Missoula, Mont.—term to expire in 1914.

TO FILL VACANCIES OCCURRING BY REASON OF EXPIRATION OF TERM

John W. Cook, DeKalb, Ill., to succeed himself—term to expire in 1916.

David R. Boyd, Norman, Okla., to succeed himself—term to expire in 1916.

Lorenzo D. Harvey, Menomonie, Wis., to succeed himself—term to expire in 1916.

Edward B. Craighead, New Orleans, La., to succeed himself—term to expire in 1916.

Carroll G. Pearse, Milwaukee, Wis., to succeed himself—term to expire in 1916.

Henry Snyder, Jersey City, N.J., to succeed himself—term to expire in 1916.

Ella C. Sullivan, Chicago, Ill., to succeed Katherine E. Dopp, Chicago, Ill.—term to expire in 1916.

Frank B. Cooper, Seattle, Wash., to succeed Henry C. Morrison, Concord, N.H.—term to expire in 1916.

Randall Spaulding, Montclair, N.J., to succeed Edwin E. Sparks, State College, Pa.—term to expire in 1916.

George B. Strayer, New York, N.Y., to succeed Henry Suzzalo, New York, N.Y.—term to expire in 1916.

TO FILL VACANCY OCCURRING BY REASON OF DEATH

David Starr Jordan, Stanford University, Cal., to succeed William T. Harris, deceased—term to expire in 1915.

Respectfully submitted,

Committee { James M. Greenwood, of Missouri, *Chairman*
Clem Hampton, of Florida
Augustus S. Downing, of New York
J. Stanley Brown, of Illinois }

On motion, duly seconded, the report was received and adopted and the nominees were declared elected as members of the National Council for the terms indicated.

President Young: It is now in order to elect a member of the Executive Committee to fill the vacancy occasioned by reason of the expiration of the term of John H. Phillips, of Alabama.

In response, W. M. Holloway, of Florida, and John H. Phillips, of Alabama, were nominated.

On a motion to elect by a rising vote, W. M. Holloway received 17 votes and John H. Phillips received 19 votes.

On motion, John H. Phillips, of Alabama, was declared elected as member of the Executive Committee for the ensuing year.

President Young announced the next order of business to be the selection of the place of convention for 1911.

Director Duncan MacKinnon, of California, requested that Mr. Alfred Roncovieri, superintendent of schools, of San Francisco, be heard. The request was granted.

ALFRED RONCOVIERI: From the teachers of the Golden State we bring you greetings and tidings of good will. To my colleagues and to me have the entire educational forces of the State of California and the public associations and municipal authorities of San Francisco intrusted and delegated the pleasant duty of extending to you a most earnest invitation to select our city for the convention of 1911.

San Franciscans are a hopeful, optimistic people, despite their disappointments. Great preparations were in progress to welcome you in 1906, when we were struck down by a cataclysm. Again, in 1909, we were encouraged to believe that you would be with us this year. We, however, cheerfully submitted to the trained minds who guide the destinies of the National Education Association, and who, for the greatest number and for its best interests, decided to hold the meeting this year in Boston.

Other cities have had the help of California in other times, and loyal Californians believe that your response will be favorable to them now. We say, with confidence, that there is no city, north, south, east, or west, that will give you a grander welcome than the warm-hearted people of San Francisco. We renew our pledge of 7,000 memberships from the State of California, and all the railroads west of Chicago have guaranteed a one-way fare for the round trip. San Francisco has always been famous for its hotels and restaurants and now has more of them than any other city in the country, and we hold an agreement with the hotel men's association that they will not raise their rates. As a starting-point for all kinds of excursions, San Francisco has no superior. It can be reached by five transcontinental railways in five days from the extreme East, and in less than three days from Chicago. Low special-rate excursions to our vineyards and orchards, our wonderful big trees and the Yosemite Valley, our mountains and our cool sea-coast, are guaranteed by all the railroads. Everybody that has ever been there loves California—the land of promise, of sunshine, fruit, and flowers; and those who have not been there, I am sure long to see our state and our beautiful, rehabilitated San Francisco.

After our appalling catastrophe of April 18, 1906, the world gave evidence of its love for San Francisco. By land and by sea there flowed to our city streams of relief. The sympathy of the Republic and of the nations beyond the seas was awakened, and magnificent was the generosity that was bestowed on our people. Few of us were exempt from the bread line in those fateful days. We are strong again! We ask you to consider the two keen disappointments of our people in not being able to entertain you, thru no fault of theirs. We ask you to come and see our new, twentieth-century, up-to-date San Francisco, the greatest marvel of rebuilding of all time, built on the greatest area of ruin ever known; greater, grander, and stronger, to fulfill her destiny and proud position as guardian of the Golden Gate.

San Francisco has won the admiration and wonder of the world by the courage and energy of her rebuilding. She stands, today, more fit than ever to occupy her proper place among the great cities of the world. The confidence of her people has been justified, and the promise of greater prosperity for the future is here.

Most characteristic of our people is their hospitality. This quality is one of the proud legacies bequeathed to us by our fathers, the rugged pioneers of the West, and most jealously do we strive to maintain its original standard.

We ask you to come and enjoy the cool summer breezes and bracing air of the Pacific Ocean; visit us in our favored land, in our homes and firesides; our latch-strings will ever be on the outside, and we promise you, like the Gaels of old, a hearty hundred thousand welcomes in true old California style from the people who make the lovely city of San Francisco their home.

DIRECTOR D. B. JOHNSON, of South Carolina: I move that this Board expresses itself in favor of accepting the invitation of San Francisco and the state of California, subject to the decision of the Executive Committee after due consideration.

Seconded and carried.

There being no other business, the meeting adjourned at 5:30 P.M.

IRWIN SHEPARD, *Secretary*

Approved,

ELLA FLAGG YOUNG, *President*

GENERAL SESSIONS OF THE ASSOCIATION

ADDRESSES OF WELCOME

I. EBEN S. DRAPER, GOVERNOR OF THE COMMONWEALTH OF MASSACHUSETTS

I have a very pleasant task to perform today in extending a cordial welcome to this great educational association to Massachusetts. The future of this nation depends on the education of its children, and to you we look to see that they are properly taught the principles which make true American citizenship. I sincerely trust your meetings here will be of great benefit toward the cause of education in our state. I trust your stay will be pleasant and that the hospitality shown you all will meet with your approval. I hope you will have a delightful time and come again.

[To President Taft] Mr. President, it is a great pleasure for Massachusetts to say that you have returned and become a citizen again. [To the audience] He tried us last year, and liked us so well he has come back. We shall try to make his stay pleasant, but it is fitting on this anniversary that the President of the United States should be in Massachusetts.

The history of this country, as far as the Fourth of July is concerned, started in this immediate vicinity, and we feel it is especially fitting that the President of this great nation should be here in Massachusetts today. We respect him for the great office he fills. We love him and admire him because he is a man of great ability and absolute honesty. We sincerely trust his stay will be pleasant and that later on he will become a permanent resident. I realize my function is over but in looking over this magnificent audience before I take my seat, I want to tell you I think it is the grandest sight I ever saw.

II. JOHN FRANCIS FITZGERALD, MAYOR OF THE CITY OF BOSTON

I am not an educator; I may not even be educated in a highly technical sense; yet in my official capacity I represent education as completely as any teacher in this gathering. The office which I have the honor to fill could not exist except among a people possessing intelligence and that respect for knowledge which is one of the signs of intelligence. Government by the people implies education of the people. That is why tyrants have everywhere dreaded the free school, and why the free schoolhouse occupies a place in our affections second only to the Charter of Liberty itself. Upon its powerful influence we rely to prevent the return of tyranny and to maintain a just equilibrium in the state.

This circumstance, I think, explains why Boston has so often taken the lead in the field which you cultivate. If you pay a visit to the Dor-

chester section of our city you will find a tablet marking the site of the first free public school in America. Likewise, our city has been the cradle of those ideas of self-government which are now accepted over a great part of the civilized world. Long before the Revolution our Puritan colonists had resented the royal yoke. During the last hundred years we have inaugurated more than one movement for the emancipation of men. Most of our great educators—Franklin, Quincy, Horace Mann, Walker, Eliot, Lowell—have taken an active interest in government in one or another of its phases. In a word, the ideals of democracy and popular education are so interwoven with us that any conception except that of a free people, schooling all its children free, would be utterly foreign to our way of thinking.

The fruits of this temper you may have witnessed in the early days of your pilgrimage among us. You have doubtless seen schools of every description, public and private, ranging from kindergarten to university. Their numbers and external appearance are impressive. Their enrollment includes every child up to the threshold of manhood and womanhood. Their teaching staff contains the flower of our population. Their courses of study are elastic and progressive, growing with the needs of the times but never really departing from basic principles which have stood the test of experience. Their support is so generous that the cost of the public-school system alone this year amounts to over six and a half millions and constitutes the largest single item of our city budget.

You come, then, teachers of America, to a city predisposed in your favor and deeply interested in your labors. Your deliberations will be followed with eager sympathy, tempered and governed by critical understanding. Your calling is honored here as in few other communities. It is my privilege and pleasure to speak for six hundred and fifty thousand citizens of Boston, who, differ as they may on other subjects, are unanimous today in welcoming you to the warmest hospitality of this city.

RESPONSE TO ADDRESSES OF WELCOME

FRANCIS G. BLAIR, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
SPRINGFIELD, ILL.

Mr. President, Ladies and Gentlemen, Your Excellencies the President of the United States, the Governor of Massachusetts, and the Mayor of Boston: It is my honor in behalf of the National Education Association to respond to the cordial words of welcome spoken by the governor of the State of Massachusetts, and by the mayor of Boston.

As I sat here listening to these words of praise for the common-school system I found myself wishing that on some clear September morning these distinguished gentlemen might have been lifted to some height within the central part of this Republic, and, gifted with superior vision, they might have looked out to its farthest boundaries; for if they had been so posi-

tioned and so gifted they would have seen on that bright morning the common-school system as a living, breathing, acting force—they would have seen practically sixteen millions of boys and girls coming up to the common schools. Out from the farm homes, along the dusty roads with their dinner pails in their hands and their books under their arms, up from the mining camps and villages, and up from the teeming centers of industry comes this multitudinous army of children—as I like to think it, the great grand army of the future Republic. And I hope that in this great industrial country of ours, in this land of material prosperity, our corn and cotton will never grow so tall, our horses and cattle so big, our manufacturing establishments lift their smoke stacks so high that they will obscure from our view this greatest crop, this greatest product, this greatest natural resource of our nation.

I thank you for your words of welcome to this great body of teachers, and in welcoming them you are welcoming the representatives of the greatest democratic institution we have. I believe that there is more of the Declaration of Independence expressed in the common-school system than in any other of our institutions; there is more of equal opportunity, more of the even chance, more of the square deal, more of the recognition of the individual merits than in any other institution. At the door of the public school all social, political, and religious distinctions disappear, all external marks of rank and classification are laid aside, and these sixteen millions of children enter the public schools as the sons and daughters of American citizens, and as the children of the Republic. Here the principle of Bobbie Burns alone obtains:

What tho' on hamely fare we dine,
Wear hoddin gray, and a' that;
Gie fools their silks, and knaves their wine,
A man's a man, for a' that!
For a' that, and a' that,
Their tinsel show, and a' that;
The honest man, though e'er sae poor,
Is king o' men for a' that.

But this great common-school system which we represent is not only the greatest democratic institution in our land—it is the greatest intellectual clearing-house we have in America. It is the greatest medium of exchange of ideas and sentiments and knowledge; it is the greatest solidifying, unifying force in our social and political life. We have had the figure of the "melting pot" applied to America in a recent play, and the figure is a most suggestive one. People from the four corners of the earth are flocking to this land of freedom. They come bringing with them many charms of culture and education which enrich our land and make it better for their coming. But many of them come bringing with them varied experiences and notions of social relations and of national government, which

make it difficult for them to adjust themselves readily to the real spirit of our institution. How out of these varying and conflicting sentiments and ideals are we to create the ideals and sentiments of American citizens? Will our rocks and rills, our woods and templed hills do it? Will our great expanse of plain and valley do it? Will our great industrial activities and our push and vigor do it? Will the atmosphere of freedom that hangs about us make the transformation? No doubt all of these will have their influence. But I am inclined to think that the real, the fundamental, the abiding transformation is not wrought upon the adult thru his contact with these forces, but rather upon the children of these foreign-born parents in the public schools. It is difficult for us to estimate the far-reaching influence of an ideal or a sentiment as a transforming and forming force in the great public-school system, touching the minds and hearts of the children of both native and foreign-born parents. If, as we stood upon that mountain of vision a few moments ago with the sixteen millions of children before us, a great choirmaster could have stood forth, and catching the attention of these children started that great national anthem, written by a citizen of Boston:

My country 'tis of thee,
Sweet land of liberty,
Of thee I sing,
Land where my fathers died,
Land of the pilgrim's pride,
From every mountain side,
Let freedom ring,

how the mighty pulsation of the song would have sounded over mountain and valley and plain, catching up and knitting together the hearts and minds of these children into a wholesome, clean, uplifting respect for this country! And as we stood there if some great teacher could have held up before these children the lives of George Washington and Abraham Lincoln, what an instant and far-reaching response would have followed! These two great men represent within themselves the things that are most elemental and of greatest worth in our American life. So simple in their lives and in their thought and in their actions, like Greek temples they stand forth free from distracting adornment. Great in their simplicity and simple in their greatness, these two men constitute one of our greatest resources—one of our greatest educational assets. Greater than the product of farms and mills, of mines and quarries, greater than the wealth of forest and stream are the lives of these men. It is easy for us to believe that the open doors thru which not only the children of foreign-born parents, but our own native children, enter into the spirit of our national life are the lives of George Washington and Abraham Lincoln.

Now, Mr. Governor, and Mr. Mayor, in responding to your words of welcome, I must say that this great army of teachers come not to New England and to Boston as strangers, they come as friends and kinsmen,

for thru the great medium of public schools all that is best in Boston, in its thought, in its ideal, in its educational, political, and social achievements, has crossed the Alleghenies, swept across the Mississippi Valley, over the Rockies, and on to the Pacific. It has crossed the Mason and Dixon line and pervaded the entire Southland as an all-pervading influence, covering the whole country north and south, making us akin to Boston thru the sharing of your ideas and of your sentiments. Thru our great public-school system state lines and section lines are obliterated. And it is one of the happiest bits of poetic justice that ever came to my attention, that this year, on our natal day, this great National Education Association, meeting in Boston, the heart of New England, has presiding over it as its selected president, a man from the great South, representing all that is best in its culture, its resourcefulness, and its generosity.

So it is, Mr. Governor and Mr. Mayor, that we come not as a great army of strangers. Tho we may never have crossed the boundaries of your city before, tho we may never have walked its streets, yet it all seems strangely familiar. For have we not in our public-school system visited Boston every year? Have we not been attending your Boston Tea-Party for over a century? Have we not been climbing the belfry of the Old North Church and hanging out the lanterns? Have we not been riding with Paul Revere on his perilous journey, and going right on to Concord whether he got there or not? Have we not been standing with the embattled farmers and firing the shot heard around the world? Have we not been sitting with your genial Autocrat at the breakfast table and listening to the sweet reasonableness of your Philosopher? Have we not spent many a rare day in June with your incomparable Lowell? Have we not enjoyed many times the Children's Hour with your sweet and gentle Longfellow?

And so it is, Mr. Governor and Mr. Mayor, that this gathering seems to us like a great homecoming, and is a fulfillment of the promise that not only the bread, but the tea, which you cast upon the water is returning to you after many days.

PAPERS AND DISCUSSIONS

EDUCATION AND AMERICAN INDEPENDENCE

WILLIAM WALTON KITCHIN, GOVERNOR OF THE STATE OF NORTH CAROLINA, RALEIGH, N.C.

I appreciate the compliment of being accorded a place on today's program. Among the thousands of Independence celebrations thruout the country, none will surpass in patriotism, exceed in sanity, or approach in the scope of its constituency and the usefulness of its representation, this great gathering of American educators.

A Tarheel should never feel a stranger in any place where the spirit of '76 prevails, or on any occasion when liberty is the sentiment. I almost

feel at home in famous Harvard's stadium, in sight of Bunker Hill monument, when I recall that in the olden time when heroic conduct fixed the propriety of forever commemorating Independence Day, the old Bay State and the old North State performed no small part in laying the foundations of liberty on which our Republic is builded. The story cannot be too oft repeated, for it teaches courage, love of country, devotion to duty, and consecration to civil justice which created and secured our national greatness.

One hundred and thirty-four years ago was issued the most momentous document in profane history. It was an indictment of a king for the wrongs of alien government, a resolution for the most blessed principle known in organized society—self-government—a plea for the rights of humanity, fit for every age, every land, and every people. It proclaimed the separation of a daughter in her youth and vigor from a mother country in her arrogance and power, perhaps the best mother country of the centuries. Some who were timid, some who were interested, some who were hypocrites, branded the Declaration as incendiary, but those who feared God, loved their fellows, and had the faith of patriots regarded it the most inspiring message since the Revelation, and risked their lives to sustain it. Fear put no doubtful language in that instrument, deception no falsehood, privilege no favoritism, greed no injustice. A mighty monarchy sought to destroy it. Trenton, Kings Mountain, Guilford, and Yorktown established it forever, and thirteen states gloried in their sovereignty. To secure the full fruitage of the Revolution a republic was created by the Constitution. What would be her fate? The highway of history was strewn with the wrecks of governments—monarchies, aristocracies, democracies—which had flourished with varying degrees of success and fallen from various causes. In the history of the race the philosophy of statesmen and sages had theretofore constructed no government capable of resisting foreign aggression, and at the same time protecting rights, securing safety, and promoting domestic welfare to such an extent that political perpetuity was assured, and had devised no system suited to every stage of advancing civilization. Ponce de Leon searched amid tangled wildernesses for the fountain of perpetual youth and found it not. Our Republic in a generation of unequaled statesmen, when the necessities of the time suggested the mastery of statecraft, in her search for the fountain of youth, sought every principle, considered every form, ancient and modern, that had been successful in the government of free people. "She washed the gold of political wisdom from the sands wherever it was found. She cleft it from the rocks. She gleaned it among ruins." Upon the rights of man and his community, she builded a new structure, capable of expansion, upon principles reaching to the uttermost corners of the earth, destined by the inspiration of her example to bless the world with increasing benefit for countless generations. France slew her king and is a republic; Mexico and every state southward to Cape

Horn beheld our starry flag and became self-governing. Ancient systems of Europe under the steady pressure and stern demands of the masses have been modified by American principles, and the time will come when the dweller by the Caspian may celebrate with our children the birthday of the American Republic. As long as the heart beats in sympathy with the purposes of the great, and the soul thrills with the exploits of the brave, as long as mankind venerates worthy ancestral deeds—so long shall the children of America honor this day, and devote it to the encouragement of national pride, and the cultivation of mutual respect and good will.

My native state is doubly patriotic, for we celebrate two Independence Days—this one and the 20th of May—the Mecklenburg Declaration. We of the South always had faith in ourselves, and the temper to follow our judgment. A half-century ago, we thought we could prosper and be happy without the North, but the North knew it could not prosper and be happy without us, and our separation was successfully resisted. We then thought as the New England states once thought, as was once taught in the U.S. Military Academy, that a state had the right to withdraw from the Union whenever she thought it to the interest of her people to do so, but after following with unsurpassed courage a bloody trail for four years, marked with monuments of glory, patriotism, and sacrifice, we found we were mistaken, and the South is still your country as the North is our country, and you honor us and the gallant soldiery of Lee, as we honor you and the gallant soldiery of Grant—great captains of a common country.

We rose from defeat with the heaviest burden since man's upward march began. We moved forward, slowly, patiently, surely; sometimes nearly stumbling, often misunderstood, often misrepresented, "sorely tried, and sorely tempted, from no agonies exempted" in the bearing of the burden, in the performance of the solemn duty that destiny gave to us. The burden hindered, we shrank not—it were useless to shrink. The burden galled, we complained not—it were useless to complain. We moved forward understandingly, with steady purpose, with high resolve, with almost staggering responsibility, but with constant faith in the coming justice of the public opinion of the world. We grew strong, we prospered, the burden became lighter, we quickened our pace. In the judgment of wisdom and patriotism, in the light of eternal harmony, we have so far done well our duty. We have christianized, educated, developed. We have closed the door of no opportunity. We have been ever ready with the helping hand, the generous spirit. Happiness and progress resulted. A kindly feeling exists, such as was never before known under similar conditions. We challenge every page of history for a parallel in firmness, fortitude, magnanimity, justice, and in the magnitude and character of our accomplishment.

Marching forward as if by magic steps, an unstinted devotion to the American spirit filling every man, the South stands erect, in her dignity

and power, proud of the North and the West, her heart filled with good will to all, malice to none. Her wealth exceeds that of the whole Republic in 1861. The increase of her textile factories finds no counterpart at home or abroad. Her soft-coal product is twice that of the whole country thirty years ago. Her farm products exceed those of the whole country twenty years ago. In North Carolina last year one farmer made three bales of cotton on an acre, and another made 226 bushels of corn, and we are just beginning scientific agriculture.

But we are greater in other things. Last month North Carolina had to sell a few million dollars of four per cent refunding bonds. The financial market in the money centers would not absorb them, as investments could be secured with a greater interest rate. We called the North Carolina bankers together and explained the situation. They promptly oversubscribed the unsold portion and thus made our third declaration of independence. These bonds are legitimate, and are unrelated to the illegitimate special-tax bonds of 1868-69, which were conceived in sin and brought forth in iniquity, which profited only those who pillaged, and which have from the time of their birth been hawked over the country and sold by the bushel—never bought as investments, but secured on the speculator's table, gambling in the fraud of adventurers in the attempted plunder of a commonwealth, and trusting for collection to the methods of the blackmailer.

Mr. Chairman: As citizens of the Republic we have reason to exult. Today in material development, in resources, in energy, in all that makes national power, we are a greater people than Alexander or Cæsar or Zengis or Bonaparte ever knew. "But let him that standeth take heed lest he fall." Most nations die, as most men die, from internal causes. What shall it profit a nation to circle the earth with power, emblazon the seas with prestige, and command homage from every capital, and yet fail to remedy domestic evils, forget justice, hear not the cry of the needy, and check not the wrongs of the mighty? Our forefathers faced no greater problems than this generation has to solve. Every age has its own interests, its own rights to preserve. If today every detail of government and everything in private life were fixed upon absolute right, tomorrow human selfishness would destroy that happy condition and next day man would have to begin anew his never-ending struggle. As civilization becomes more and more complex, the methods of oppression keep pace therewith, and every generation requires more and more intelligence to resist them. In former times we had the highway robber, we now have the gold-brick swindler; then we had oppressive tax levies to support privileged classes, now we have the industrial monopolist; then we needed more force, now more intellect and conscience. It is, therefore, highly appropriate for the teachers to celebrate the Fourth and consider well their opportunities respecting the preservation of justice and liberty. On the seal of the University of North Carolina are two torches and the words: "Lux, Libertas"—fitting motto for those who

minister at the shrine of learning. We are safe from foreign foes, we must be safe from domestic ills. Foreign dangers are always direct and bold; domestic ones are indirect, shrewd, insidious. It may require force—armies and navies—to repel the former; it requires wisdom, diligence, and honor to overcome the latter. A country whose government rests upon the will of the people, in order to have a certainly just government, whose burdens are levied and whose blessings are distributed impartially, must have a high-class citizenship—so intelligent that it cannot be deceived, so conscientious that it cannot be corrupted, so courageous that it cannot be intimidated. The training of this citizenship largely depends upon the teachers of America. You are the worthiest band of captains the world ever knew—leading the grand army of the Republic, the boys and girls of America, against the forces of injustice, ignorance, and prejudice—leading them to victory in the fields of light and truth. "Ye shall know the truth and the truth shall make you free"—free from vice, ignorance, and every error—a liberty worth the cost, a liberty leading to service—service to others, service to country, service to the Almighty—the measure of praise, the test of merit.

WAR AND MANHOOD

DAVID STARR JORDAN, PRESIDENT, LELAND STANFORD JR. UNIVERSITY
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The message I shall give today is a message of peace thru the arraignment of war. My attack shall be made from the side of biology; and my text may be found in these words of Sophocles: "War does not of choice destroy bad men, but good men ever."

I shall leave to those who have had far more experience than myself the discussion of the advantages of law, order, and arbitration over brute force, which decides nothing, in the settlement of human differences. The relation of war to social, ethical, and religious development I shall not touch. I shall leave to others also all consideration of the horrors of war—its legacies of sin, of suffering, and of lifelong agony. I shall not take into account the costs of wars long since fought, burdens strapped for all time to the backs of the toilers of Europe. Nor shall I consider the cost of future wars, which are never to be fought, but which are provided for in the budget of every nation. These again are a burden unbearable, resting upon those whose chief relation to the life of nations is that of bearers of burdens needlessly imposed. I shall not attempt to depict the growing strength of that invisible empire of bondholders who are fast becoming the owners of the civilized world and whose silent nod determines the issue of every great crisis in war or peace. My message concerns solely the relations of war to manhood as shown in the succession of the generations of men.

Benjamin Franklin once said:

There is one effect of a standing army which must in time be felt so as to bring about the abolition of the system. A standing army not only diminishes the population of a country, but even the size and breed of the human species. For an army is the flower of the nation. All the most vigorous, stout, and well-made men in a kingdom are to be found in the army, and these men, in general, cannot marry.

What is true of standing armies is still more true of the armies that fight and fall. Those men who perish are lost to the future of civilization, they and their blood forever. For as Franklin has also said, "Wars are not paid for in war time: the bill comes later."

The last thirty years have been the period of greatest activity in the study of biology. Among other things, it has seen the rise of definite knowledge of the processes of heredity and their application to the formation and improvement of races of men and animals. From our scientific knowledge in this respect men have developed the fine art of selective breeding. With men as with animals, "like the seed is the harvest." In every vicissitude of race of men or breed of animals, it is always those who are left that determine what the future will be. All progress in whatever direction in the development of animals is conditioned on selective breeding. There is no permanent advance without advance in the type of parenthood. There is no decline except that caused by breeding from the second-best instead of the best.

The rise and fall of races of men in history are in a degree conditioned on the same elements that determine the rise and fall of a breed of cattle or of a strain of horses. As improvement in blood is dependent upon normal selection, or the choice of the best for parenthood, so racial decline is conditioned on reversal of selection, the choice of the worst for survival and propagation.

"Always and ever,"says Novicow, "war brings about the reversal of selection." Those traits of character—physical strength, agility, courage, dash, patriotism—desired in the soldier, are lost to the race that decrees the destruction of the soldierly. The belief that war in one generation sharpens the edge of warriorhood in the next generation is a delusion and has no biological foundation. It is the man who is left that determines always the future.

Once on the flanks of the Apennines there dwelt a race of free people, fair and strong, self-reliant and confident. They were men of courage and action; men who "knew no want they could not fill themselves." They knew none on whom they looked down and none to whom they need look up. For all things which men could accomplish these plowmen of the Tiber and the Apennines felt themselves fully competent and adequate. *Vir* they called themselves in their own tongue, and *virile*, *virilis*, men like them are called to this day. It was the weakling and the slave that were crowded to the wall; the man of courage maintained himself and begat descendants. In each generation, and from generation to generation, the

human harvest was good. The spirit of freedom was the only ruler these men knew. For it is written that men fit to be called *vires* "are too self-willed, too independent, and too self-centered to be ruled by anyone but themselves." This spirit of freedom being herself metaphoric called to her aid four great genii which create and recreate nations—variation, ever introducing change; heredity, holding fast what was developed; segregation, in her mountain fastnesses shutting out the world; and selection, choosing always the best and for the best purposes, casting aside the weakling and the slave, holding the man for the man's work. And ever the man's work was at home, building cities, subduing forests, draining marshes, adjusting customs and statutes—preparing the way for the new generations. These men begat sons of men after their own fashion, and the men of strength and courage were ever dominant.

In these early days when Rome was small, without glory, without wealth, without colonies, and without slaves, the Romans were men; these were the days of Roman greatness.

But the spirit of freedom gave way little by little to the spirit of domination. Conscious of power, men sought to exercise it, not on themselves, but on others. Step by step this led to their banding together, to aggression, oppression, plunder, struggle, glory, and all that goes with the pomp and circumstance of war. The individuality of men in the aggregate was lost in the aggrandizement of the few. Independence was swallowed up in ambition. Patriotism came to have a new meaning; it was transferred from the hearth and home to the trail of the army.

It does not matter to us now what were the details of the subsequent history of Rome. We have now to consider only a single factor. In science this factor is known as "reversal of selection." "Send forth the best ye breed"—that was the message of the Roman war-call. The spirit of domination took these words literally; and the best were sent forth. In the conquests of Roman arms, *Vir*, the real man, went forth to battle and to the struggle of foreign invasion; *Homo*, the human being, the man who was not fit for the army, remained at home on the farm and in the workshop, and he begat the new generations. Thus "*Vir* gave place to *Homo*." The sons of real men gave place to the sons of scullions, stable-boys, slaves, camp-followers, and the riff-raff of those the great and victorious army did not want.

The fall of Rome was not due to luxury, effeminacy, corruption, the wickedness of Nero and Caligula, the weakness of the long train of Constantine's ignoble successors. It was fixed at Philippi, when the spirit of domination was victorious over the spirit of freedom. Its beginning dated even earlier, in the rise of consuls and triumvirates, and the loss of the simple, self-sufficient race which would brook no arbitrary ruler. As the real men fell in war or were left in far-away colonies, while the life of Rome

still persisted, it was a different type of Roman that continued it; and this new type reproduced in Roman history its own weakling parentage.

Thus we read in Roman history of the rise of the mob and of the arbitrary ruler which is the mob's exponent. It was not the emperor that made Rome's imperialism; it was the absence of the people, the want of real men. The conditional power of Julius Cæsar, resting on his own tremendous personality, showed that the days of Cincinnatus and Junius Brutus were past. The power of Augustus showed it still more clearly. The decline went on and the power of the emperor became greater. It was written that "the little finger of Constantine was thicker than the loins of Augustus." The emperor in the time of Claudius and Caligula was not the strong man who held in check all lesser men and organizations. He was the creature of the mob; and the mob, intoxicated by its own work, worshiped him as divine. The people had declined and arbitrary power was dominant. By the rise in arbitrary power, as a sort of historical barometer, we may mark the decline of the breed of a people, a decline arising from degeneration in the type from which it draws its sires. A herd of cattle can degenerate in no other way than this, and a race of men is under the same laws.

What have the historians to say of these matters? Very few have grasped the full significance of their own words; for very few have looked on men as organisms, and on nations as dependent on the specific character of the organisms responsible for their reproduction.

Benjamin Franklin was, so far as I know, the first thinker to treat man thus as an inhabitant of the world, a species in nature among other species and dependent upon nature's forces and laws as other animals are.

Otto Seeck, in his great history of the *Downfall of the Ancient World* (*Der Untergang der antiken Welt*), finds this downfall due solely to the rooting-out of the best (*Die Ausrottung der Besten*). The historian of the *Decline and Fall of the Roman Empire*, or any other empire, is engaged solely with the details of the process by which the best men are exterminated. Speaking of Greece, he says, "A wealth of force of spirit went down in these ancient suicidal wars." He continues:

> In Rome Marius and Cinna slew the aristocrats by hundreds and thousands. Sulla destroyed the democrats, and not less thoroughly. Whatever of strong blood survived, fell as an offering to the proscription of the Triumvirate. . . . . The Romans had less of spontaneous force to lose than the Greeks. Thus desolation came to them the sooner. Whoever was bold enough to rise politically in Rome was almost without exception thrown to the ground. Only cowards remained and from their brood came forward the new generations. Cowardice showed itself in lack of originality and in slavish following of masters and traditions.

The Romans of the Republic could not have made the history of the Roman Empire. In their hands it would still have been a republic. Could they have held aloof from world-conquering schemes, Rome might have remained a republic, enduring even in our day. The seeds of destruction

were not, however, inherent in the race or in the form of government, but in those influences by which the best men were cut off from the office of parenthood.

"The Roman Empire," says Seeley, "perished for want of men." The dire scarcity of men is noted even by Julius Cæsar. And at the same time it is noted that there are men enough. Rome was filling like an overflowing marsh. Men of a certain type were plentiful, men "with guano in their composition," to use Emerson's striking phrase; but the self-reliant farmers, the hardy dwellers on the flanks of the Apennines, the Roman men of the early Roman days—these were fast disappearing, and with the change in the breed came the change in Roman history.

With the Antonies, we are told, came

> a period of sterility and barrenness of human beings. . . . . The human harvest was bad. . . . . Bounties were offered for marriage. . . . . Penalties were devised against race-suicide.

Metellus speaks of marriage as "a duty which, however painful, every citizen ought manfully to discharge." Wars were conducted in the face of a declining birth-rate. Bury tells us that "the effect of these wars was that the ranks of the small farmers were decimated, while the number of slaves who did not serve in the army multiplied." Thus *Vir* gave place to *Homo*, real men to mere human beings. There were always men enough, such as they were. As Franklin says: "A hencoop will be filled, whatever the (original) number of hens." Thus the mob filled Rome and the mob-leader, the mob-hero, rose in relative importance. No wonder the finger of Constantine was thicker than the loins of Augustus. No wonder that "if Tiberius chastised his subjects with whips, Valentinian chastised them with scorpions."

Zumpt, writing of this period, says:

> Government having assumed godhead, took at the same time the appurtenances of it. Officials multiplied. Subjects lost their rights. Abject fear paralyzed the people and those that ruled were intoxicated with insolence and cruelty. . . . . The worst government is that which is most worshiped as divine. . . . . The emperor possessed in the army an overwhelming force over which citizens had no influence, which was totally deaf to reason or eloquence, which had no patriotism because it had no country, which had no humanity because it had no domestic ties. . . . . There runs through Roman literature a brigand's and barbarian's contempt for honest industry. . . . . Roman civilization was not a creative kind; it was military, that is destructive.

What was the end of it all? The nation bred real men no more. To cultivate the Roman fields "whole tribes were borrowed." The man of the quick eye and the strong arm gave place to the slave, the scullion, the pariah, the man with the hoe, the man whose lot does not change because in him there lies no power to change it. It has been said: "Slaves have wrongs; but freemen alone have rights." So at the end, the Roman world yielded to the barbaric because it was weaker in force. To the barbarians

it was not a conquest; they merely settled and peopled the empire. The process is recorded in history as the fall of Rome.

In the Roman wars, "out of every hundred thousand strong men, eighty thousand were slain. Out of every hundred thousand weaklings, ninety to ninety-five thousand were left to survive." This is Dr. Seeck's calculation, and the biological significance of such mathematics must be evident at once. He speaks with scorn of the idea that Rome fell from the decay of old age, the corruption of luxury, the neglect of military tactics, or the over-diffusion of culture. He continues:

> In condemning the sinful luxury of wealthy Romans, we forget that the trade-lords of the fifteenth and sixteenth centuries were scarcely inferior in this regard to Lucullus and Apicius, their waste and luxury not constituting the slightest check to the advance of the nations to which these men belonged. The people who lived in luxury in Rome were scattered more thinly than in any modern state of Europe. The masses lived at all times more poorly and frugally because they could do nothing else. Can we conceive that a war force of untold millions of people is rendered effeminate by the luxury of a few hundreds? . . . . Too long have historians looked upon the rich and noble as marking the fate of the world. Half the Roman Empire was made up of rough barbarians untouched by Greek or Roman culture.

Seeley tells us:

> Whatever the remote and ultimate cause may have been, the immediate cause to which the fall of empire can be traced is a physical not a moral decay. In valor, discipline, and science the Roman armies remained what they had always been and the peasant emperors of Illyricum were worthy successors of Cincinnatus and Caius Marius. But the problem was, how to replenish those armies. Men were wanting. The empire perished for want of men.

Does history ever repeat itself? It always does if it is true history. If it does not, we are dealing not with history, but with mere successions of incidents. Like causes produce like effects, just as often as men may choose to test them. Whenever men use a nation for the test, as with a field, poor seed yields a poor harvest. Where the weakling and the coward survive in human history, there "the human harvest is bad"; and it can never be otherwise.

The finest Roman province—a leader in the Roman world—was her colony of Hispania. What of Spain in history? What of Spain today? 'This is Castile," said a Spanish writer, "she makes men and wastes them." "This sublime and terrible phrase," says another writer, "sums up Spanish history."

According to Captain Calkins, the Augustinian friar, La Puente, in 1630, thus summed up the fate of Spain:

> Against the credit for redeemed souls, I set the cost of armadas and the sacrifice of soldiers and friars sent to the Philippines. And this I count the chief loss: for mines give silver and forests give timber, but only Spain gives Spaniards; and she may give so many that she may be left desolate and constrained to bring up strangers' children instead of her own.

Another of the noblest of the Roman provinces was Gallia, the favored land in which the best of the Romans, the Franks, and the Northmen have mingled their blood to produce a nation of men, hopefully leaders in the arts of peace, fatally leaders also in the arts of war.

In the Wiertz gallery in Brussels is a wonderful painting, dating from the time of Waterloo, called "Napoleon in Hell." It represents the great marshal with folded arms and face unmoved descending slowly to the land of shades. Before him, filling all the background of the picture with every expression of countenance, are the men sent before him by the unbridled ambition of Napoleon. Three millions and seventy thousand there were in all, as history tells us—more than half of them Frenchmen. They are not all shown in one picture; they are only hinted at. And behind the millions hinted at are the millions on millions of men who might have been, and are not—the huge widening human wedge representing the possible descendants of the men who died in battle.

These men of Napoleon's armies were men without blemish, "the best that the nation could bring," chosen as "food for powder," "ere evening to be trampled like the grass" in the rush of Napoleon's great battles. These men came from the plow, from the workshop, from the school—the best they were, men from eighteen to thirty-five years of age at first, but afterwards older men and younger. "A boy will stop a bullet as well as a man," is a maxim accredited to Napoleon. "The more vigorous and well-born a young man is," says Novicow, "the more normally constituted, the greater his chance to be slain by musket or magazine, the rifled cannon and other similar engines of civilization." We are told that among those destroyed by Napoleon were "the *élite* of Europe." "Napoleon," says Otto Seeck, "in a series of years seized all the young of high stature and left them scattered over many battlefields; so that the French people who followed them are mostly men of smaller stature. More than once in France since Napoleon's time has the military limit been lowered." Says Le Goyt, "It will take long periods of peace and plenty before France can recover the tall statures mowed down in the wars of the republic and the first empire."

I need only touch briefly the story of Napoleon's campaigns. It began with the first consulate, the justice and helpfulness of the Code Napoleon—the prowess of the brave lieutenant whose military skill and intrepidity had caused him to deserve well of his nation. The spirit of freedom gave way to the spirit of domination. Campaign followed upon campaign, against enemies, against neutrals, against friends. The trail of glory crossed the Alps to Italy and to Egypt; it crossed Switzerland to Austria; crossed Germany to Russia. The path of glory is one that descends easily. Conscription followed, and victory and conscription debased the human species. The human harvest was bad. The first consul became the emperor. The servant of the people became the founder of a dynasty. Again conscription after conscription. "Let them die with arms in their hands.

Their death is glorious, and it will be avenged. You can always fill the places of soldiers." These were Napoleon's words when Dupont surrendered his army in Spain to save the lives of a doomed battalion.

Then came more conscriptions. After the battle of Wagram, we are told, the French began to feel their weakness; the Grand Army was not the army that fought at Ulm and Jena. "Raw conscripts raised before their time and hurriedly drafted into the line had impaired its steadiness."

Of the Moscow campaign J. H. Rose says in his History of Napoleon:

> Amidst ever-deepening misery they struggled on, until of the 600,000 men who had proudly crossed the Niemen for the conquest of Russia, only 20,000 famished, frostbitten, unarmed specters staggered across the bridge of Korni in the middle of December.

He continues:

> Despite the loss of the most splendid army marshaled by man, Napoleon abated no whit of his resolve to dominate Germany and discipline Russia. . . . . He strained every effort to call the youth of the empire to arms; . . . . and 350,000 conscripts were promised by the senate. The mighty swirl of the Moscow campaign sucked in 150,000 lads of under twenty years of age into the devouring vortex. . . . . The peasantry gave up their sons as food for cannon. . . . . Many were appalled at the frightful drain on the nation's strength. . . . . In less than half a year, after the loss of half a million men, a new army nearly as numerous was marshaled under the imperial eagles. But the majority were young, untrained troops; and it was remarked that the conscripts born in the Year of Terror had not the stamina of the earlier levies. Brave they were, superbly brave, and the emperor sought by every means to breathe into them his indomitable spirit. . . . . Truly the emperor could make boys heroes, but he could never repair the losses of 1812. . . . . Soldiers were wanting; youths were dragged forth.

The human harvest in France was at its worst.

The inevitable result of all this must be the loss to the nation of those qualities which are sought for in the soldier. It leaves the nation crippled, *une nation blessée*, to use the words of an honored professor in the University of Paris. The effect does not appear in the effacement of art or science or creative imagination. Men who excel in these regards are not drawn by preference or by conscription to the life of the soldier. If we cut the roots of a tree, we shall not affect, for a time at least, the quality of its flower or its fruit. We are limiting its future rather than changing its present. In like manner does war affect the life of the nation. It limits the future rather than checks the present.

Those who fall in war are the young men of the nations, men between the ages of eighteen and thirty-five; they are the men of courage, alertness, dash, and recklessness, who value their lives as naught in the service of the nation. The men who are left are, for better and for worse, the reverse of all this, and it is they that determine what the future of the nation shall be. They hold its history in their grasp.

However noble, encouraging, inspiring the history of modern Europe may be, it is not the history we would have the right to expect from the development of its racial elements. It is not the history that would have

been made had these same elements been released from the shadow of reversed selection cast by fratricidal war. The angle of divergence between what might have been and what has been is measured by the parentage of strong, capable, and courageous men slain on the bloody fields of glory.

All this applies not to one nation alone nor to one group of nations, but in like degree to all nations that have sent forth their young men to the field of slaughter. As it was with Greece and Rome, with France and Spain, Mauritania and Turkestan, so has it been with Germany and England; so with all nations that have sent forth "the best they breed" to foreign service, while retaining cautious, thrifty mediocrity to fill up the ranks at home.

Germany guards her men and reduces the waste of war to a minimum. She is "military," but not "warlike"; and this distinction means a great deal from the point of view of this discussion. In modern times the greatest loss of Germany has not been from war but from emigration. If the men who have left Germany have been of a higher type than those who remained at home, then the blood of the nation has been impoverished. That this has been the case the Germans in Germany are usually unwilling to admit. On the other hand, those competent to judge the German-American find no type of men in the Old World his mental or physical superior.

What shall we say of England and her relation to the reversed selection of war? Statistics we have none, and no evidence of tangible decline that Englishmen will not indignantly repudiate. When the London press in the vacation season fills its columns with comments on English deterioration, it is something else which these journalists mean. Their problem is that of the London slums, of the sweat-shop and child-labor, of wasting overwork and lack of nutrition, of premature old age, and of sodden drunkenness—influences that bring about the degradation of the individual, the inefficiency of the social group, but which, for the most part, leave no trace in heredity and therefore become no factor in the degeneration of the race. The degradation of the slums is at once cause, effect, and symptoms—a sign of racial inadequacy, a cause of further enfeeblement, and an effect of unjust and injurious social, political, and industrial conditions in the past. But with better training and improved surroundings the child of the slums rises to normal condition. Given a fair chance in his youth, he will show his normal British heritage.

But the problem before us is not that of the slums. The question is, What mark has been left on England by her great struggle for freedom and by the thousand petty struggles to impose on the world the semblance of order known as "Pax Britannica"?

To one who travels widely thru the counties of England some part of the cost of this is plain. These lines suggest it—

There's a widow in sleepy Chester,
Who mourns for her only son;
There's a grave by the Pabeng River,—
A grave which the Burmans shun.

This story is repeated in every village of England and is recorded on the walls of every parish church. Everywhere can be seen tablets in memory of young men—gentlemen's sons from Eton and Rugby and Winchester and Harrow; scholars from Oxford and Cambridge, who have given up their lives in some petty war in a far-off country. Their bodies rest in Zululand, in Cambodia, on the Gold Coast, in the Transvaal. In England only are they remembered. Their names are recorded by the score in the parish churches, by the thousand in the cathedrals. Visit the cathedral towns one after another—Canterbury, Winchester, Chichester, Exeter, Salisbury, Wells, Ely, York, Lincoln, Durham, Lichfield, Chester (what a wonderful series of pictures this list of names calls up!)—and you will find always the same story, the same array of memorials to young men.

What would be the effect on England today if all these "unreturning brave" and all that should have been their descendants were numbered among her sons? Doubtless not all of these were young men of character. Doubtless not all were worthy even of the scant glory of a memorial tablet. But most of them were worthy, most of them were brave and true, and most of them looked out on life with "frank, blue British eyes." Their influence, immediate and future, has been lost to the nation. More than all who fall in battle or are wasted in the camps, the nation mourns the "fair women and brave men" who should have been the descendants of these strong and manly men. If we may personify the spirit of the nation, it grieves most, not over its unreturning brave, but over those who might have been, but never were, and who, so long as history lasts, can never be.

In his charming studies of *Feudal and Modern Japan*, Mr. Arthur Knapp mentions again and again the great marvel of Japan's military prowess as shown in the Chinese War, after more than two hundred years of peace. It has been even more conclusively shown in the Russo-Japanese War since Mr. Knapp's book was written. His astonishment was that after more than six generations in which physical courage had not been demanded, the virile qualities which make up such courage were found unimpaired.

In the light of the reverse of this condition which we have been considering in the case of European nations we can readily see that the experience of Japan was just what we might expect. In times of peace there is no slaughter of the strong, no sacrifice of the brave. In the peaceful struggle for existence there is a premium placed upon these virtues. The virile and the brave survive. They and their descendants are not wasted on the battlefield. It is the idle, the weak, and the dissipated that go to the wall. "What won the battles on the Yalu, in Korea or Manchuria," says the Japanese writer, Nitobe, "was the ghosts of our fathers guiding our hands

and beating in our hearts." If we translate this from the language of Shintoism into that of science, we find it a strong testimony to the fact of race-heredity, the survival of the strong in the lives of their self-reliant and effective sons. The shades that confronted Napoleon are not guiding the hands or beating in the hearts of the men of Europe today.

By the law of probability as developed by Quetelet, it is claimed that there will appear in each generation the same number of potential poets, artists, investigators, patriots, athletes, and superior men of each degree. This law, however, involves the theory of continuity of paternity, that in each generation a practically equal percentage of men of superior force or superior mentality will survive to take the responsibilities of parenthood. Otherwise this law becomes subject to the action of another law, that of reversed selection, or the biological law of "diminishing returns." In other words, breeding from an inferior stock brings race degeneration; and such breeding is the sole agency of such degeneration, as selection, natural or artificial, along one line or another is the sole agency of race progress. And all laws of probabilities and averages are subject to a still higher law, the primal law of biology, which no cross-current of life can check or modify: Like the seed is the harvest.

War destroys the best seed, leaving the inferior to germinate, and the harvest is bad. Hence the final and bitter truth: "Wars are not paid for in war time: the bill comes later."

THE RELATION OF EDUCATION TO DEMOCRATIC GOVERNMENT

WILLIAM HOWARD TAFT, PRESIDENT OF THE UNITED STATES

Mr. Chairman, Ladies and Gentlemen: The presence of this audience of thousands of those engaged in the education of the youth of the country on this the natal day of the Republic, suggests the discussion of the relation of education to democratic government. We celebrate today the one hundred and thirty-fourth anniversary of the signing of the Declaration of Independence. That was an announcement to England and to the world of the determination of a majority of those living in the thirteen colonies strung along the eastern coast of America to sever their relations with the mother country, and to establish some sort of a government here on principles of democracy. For more than a century each one of these colonies had enjoyed popular government—had enjoyed it thru the instrumentality of a charter or fundamental act or constitution granted by the Crown of England. The hundred and fifty years had witnessed the enactment of many laws by the English Parliament of a character calculated to confine the trade, the growth, and the prosperity of the colonies within limitations inuring solely to the benefit of the mother country. But the supervision of the colonies by the home government was for many decades so neglectful

and indifferent that it left the control of each colony largely to the wish of the people of the colony themselves. They had their popular assemblies, their municipal governments, and all those institutions in the operation of which the colonists acquired a practical knowledge and education in self-government that was exceptional in its thoroness. They or their ancestors in crossing the ocean had brought a love of civil liberty and had acquired an understanding of its meaning by actual practice in its benefits, unequaled in the history of the world. Primary-school education was enjoyed by the great majority of the youths of the country, and there were many well-educated professional men in every one of the colonies. They had occupied their minds in studying the principles of government, and were well grounded in the teachings of Locke and all the political writers of the seventeenth and eighteenth centuries. Having been trained in the actual formation and maintenance of local government, they had had their constructive faculties largely developed by actual use and experience. The list of well-educated lawyers and professional men who had given time and attention to the study of the principles of government is a marvelous one, and can only be explained by the peculiar circumstances surrounding the life of each of the communities that grew up into the political entities known as colonies and subsequently formed themselves into the confederation. Not until the time of Grenville, in 1763, did anyone in the English government seriously attempt to regulate the affairs in the American colonies and to adopt and enforce a distinct colonial policy. When this was done, it is now plain—altho perhaps Grenville could not have been expected to see it—that a century's neglect of them had developed an independence of thought and action in these colonies, which made impossible the resumption by England of closer control unless immediate steps were taken by a strong hand to suppress resistance. The Stamp Act, its repeal, the Declaratory Act, the Townsend Act, the repeal of the Townsend Act, and the continuance of the tea tax were first the assertion of authority, then a yielding to clamor against it, then a renewal of the assertion, then a second withdrawal, and then a temporizing attitude with declarations of authority that were most irritating to the colonists without any enforcement of the powers claimed. The thirteen years between 1763 and 1776 were the one thing needed to eradicate in the colonists their love of the union with the mother country, their reluctance to sever the bonds which had always been light until then, and to implant in their bosoms the determination to have an independent government and to work out their future as a separate nation.

These conditions led to the Declaration of Independence—an instrument, in the minds of many, the most important ever penned by man. Of course it is not to be compared with the Constitution of the United States—that wonderful compromise and compact by which a government of the people was formed out of thirteen jealous independent states, a great nation

was founded competent to deal with all the great national questions, and local affairs were left to the separate states. The Constitution was a charter of fundamental law, the most concise and comprehensive ever written, elastic enough to meet all contingencies and yet restrictive enough always to preserve intact the original plan. It established a government on the principles set out in the Declaration of Independence. It executed the general promises of the Declaration. It was the result of the careful deliberation of many minds. It involved constructive statesmanship of the highest order. On the other hand, the Declaration was what its name implied, an announcement to the world of intention to act, a statement of the political principles upon which the action was justified, and an indictment of the King of England for the many acts of tyranny and usurpation of the compact he had made with the colonies, which made such action necessary. It was controversial, it was accusatory, it was declaratory. It was the wonderful product of one man's pen. It was intended to arouse the feelings and to stir to action the people of the colonies. And so it must have differed from the subsequent calm deliberative statement of fundamental law in the Constitution, the result of the discussion of months by the greatest jurists and statesmen of the century. But whatever its intrinsic merit, as compared with the Federal Constitution, there can be no difference of opinion as to the importance of the act it evidenced or of the consequences that flowed from it. The style of the Declaration is remarkably clear and forceful. The language is striking, and the matter, tho embracing much, is reduced to a concise form that was well calculated to attract the attention of those whom it was hoped to arouse.

The important part of the instrument, from our present-day standpoint, is its declaration of democratic principles of government. At various stages in our history questions have arisen involving the consistency of present-day politics with the principles announced in the Declaration; and it is to some of these questions that I would this afternoon invoke your attention. The propositions that have given rise to the most discussion in the Declaration are these:

> We hold these truths to be self-evident, that all men are created equal, that they are endowed by their Creator with certain inalienable Rights, that among these are Life, Liberty, and the pursuit of Happiness. That to secure these rights, Governments are instituted among Men, deriving their just powers from the consent of the governed.

When the Declaration of Independence was signed, slavery was a recognized legal institution in most of the colonies. It was not a popular institution in the world at that time. Washington, Jefferson, and all the statesmen, whether from the South or North, deplored its existence and hoped for its abolition. One of the counts of the indictment against King George III contained in the Declaration referred to, altho it did not specify, the annulment by the British home government of laws passed in the colonies making the importation of slaves from Africa a penal offense. After slavery

became a valuable institution to the South from a commercial standpoint; after the development of the cotton industry seemed to make it indispensable to the prosperity of the cotton-growing states; after the feeling in favor of abolition had developed in the North to the point of an organized abolition party, and after the extension of slavery in the territories had become one of the most bitterly contested issues in politics, the construction of this clause of the Declaration and its meaning became a frequent theme in political controversy. In the Lincoln-Douglas debates the question was mooted whether slavery was not contrary to the provision that all men are created equal, and whether the proposition that they are endowed by their Creator with certain inalienable rights, and among these are life, liberty, and the pursuit of happiness, did not make slavery entirely inconsistent with the Declaration. Mr. Lincoln insisted that it did. He insisted that the equality referred to in the Declaration meant equality of opportunity to enjoy life and liberty and to pursue happiness. He said that as between him and a negro woman there were many respects in which he was her superior; but in the right to earn her living in the sweat of her brow, and to apply the earnings of her labor to the maintenance of her life, to the enjoyment of her liberty, and to the pursuit of her happiness, she was his equal or the equal of anyone, according to the Declaration of Independence.

By the war for the Union slavery was eradicated from our political and social systems. The process has left scars, but even those who exhibited the greatest courage and endurance in defense of the Constitutional principles by which slavery was upheld are willing now to admit the great good fortune of this country in the result by which the manacles were struck from the hands of four million slaves and they were made citizens of the United States and given equality according to the definition of Mr. Lincoln.

The signing in 1776 of this declaration of principles in favor of equality of all men in the face of the existence of slavery at that time in the colonies indicates that the Declaration was intended to be a statement rather of ideal conditions and of principles, the attainment of which in practical results was for the future and not for the immediate present. The inconsistency between that Declaration and slavery, the great man who drafted the instrument and the intelligent men who signed it of course realized. We can all now rejoice that after an awful war a change has been effected in our social institutions in which that rank inconsistency between the professions of the Declaration of Independence and the actual social institutions of this country has disappeared.

But slavery has not been the only policy and institution of our government that has been attacked on the ground of its inconsistency with the Declaration of Independence. In 1898 we were drawn into a war with Spain, on account of the abuses which were alleged to exist and which we believed to exist in the government of Cuba under the Spanish Crown, and

which were thought to be so long-continued as to justify us, an immediate neighbor, in interfering to secure the independence of the people of Cuba. We entered upon the war in a spirit of true altruism. We declared that Cuba ought to be free and that we should hold her only long enough to establish a suitable government in the island for the people of the island. We did free Cuba. We did give her an independent government. When thereafter revolution threatened the existing government, we intervened in accordance with our treaty rights to preserve law and order, and after having secured for her a fair election under her constitution we turned over the island again to the government thus elected.

In the course of the Spanish War, in order to defeat the power of Spain, Admiral Dewey and our fleet visited Manila, captured the Spanish fleet and Manila, and with it took over the Philippine Islands. At the time that he took possession of the islands there was then pending an insurrection by some of the Filipino people against the power of Spain. The government of Spain was there said to be inadequate and ineffective and unjust. We used the insurgent Filipinos as allies to aid us in taking Manila and we could not well turn them back to Spain. On the other hand, the insurgents were in no condition to establish and maintain a stable government. We found from seven to eight millions of people in a state of Christian tutelage. They were as ignorant as children, but they were Christians. They took their ideas from Europe and America, and not from the Orient or Mohammedanism. Not more than 10 per cent. of them were educated in any way. They had from twelve to fifteen different dialects of limited vocabulary, little literature, absolutely preventing a progress dependent on a popular acquaintance with the advance in world ideas. Some of their educated people had adopted declarations in favor of democratic government and had attempted to establish a republic in parts of the islands, but its administration was corrupt, tyrannical, and utterly ineffective to suppress disorder. There seemed to be, therefore, but one course for the United States government to follow, and that was to take over the Philippines, establish law and order, and then to teach the people enough in learning and in the practice of popular government to enable them to take over a government and maintain it permanently. Meantime we had to suppress an insurrection in order to initiate such a policy. Those who were responsible for the policy have been subjected to the severest criticism, in that they are said to have violated the proposition of the Declaration of Independence that to secure the rights of life, liberty, and the pursuit of happiness "governments are instituted among men, deriving their just powers from the consent of the governed." I affirm that there is nothing in the Philippine policy of this government which is at variance with the language from the Declaration of Independence which I have quoted, when that language is properly understood by the same sort of construction as Lincoln gave to the language, "All men are created equal."

In order properly to judge of the meaning of an instrument like this, the circumstances surrounding the men who wrote it and signed it are to be taken into consideration. These words were applied in the minds of the framers of the document to the people living in the thirteen American colonies, than whom there never were people of better skill and practice in the science of self-government. As already said, for a hundred and fifty years they and their ancestors had carried on government, practically free from any control by the home government. They had worked out their municipal institutions, and they had held their assemblies, and they had framed their laws, all with a view to the maintenance of a successful democracy; and of course there could be no just government of them which did not depend upon their consent. But the framers of the Declaration would be the last persons to apply this principle to people like the Filipinos. Even Lincoln in his debates with Douglas said that he did not believe that under the principles of that instrument negroes should be placed upon juries or that they should be entitled to vote. Progress was made after that and doubtless he changed his mind as to the rights which should be extended to them; but I only refer to this to show what his construction of the language was. The truth is that the language is to be understood as applying to people who have intelligence, education, and self-restraint enough to know what is their best interest, to understand what civil liberty is, and what their rights in a government securing civil liberty are. Until they reach this stage in political education they must be helped. This is not to say that men in this country who do not measure up to the standard I have given should be shut out from the ballot, because there are enough men of intelligence and political education and self-restraint to neutralize the evil effects of mixing some ignorant and uneducated in our electorate. But where a country is inhabited, as the Philippines are, by seven millions of people with only a small percentage educated at all, and with no percentage having real political education and experience, they must be helped, they must be given assistance in ordinary education and in the experience that comes from actually practicing partial self-government.

The problem presented when the United States took hold of the Philippines was a most difficult one, and it had to be solved by the schoolmaster. A thousand teachers were imported, and they were set to work teaching the young Filipinos English in the primary classes, and teaching the Filipino teachers how to talk and teach English. After ten years we have now a body of eight or nine thousand Philippine school teachers, and we have in the islands a half-million young Filipinos reading, writing, and reciting English. The native dialects were unfitted, any one of them, to become the language of a great country; the Spanish language was known only to about 7 per cent. of all the people; the people wished to learn the English language; the language of the United States, which had taken over the

islands, was English; the business language of the Orient is English; and so English was adopted as the language of the Philippines. Today there is more English spoken in the islands than there is Spanish, and in two generations English will be the general language of the Archipelago.

The authorities of the United States helped the Filipinos to form municipal governments, then provincial governments, and finally Congress provided a Philippine Assembly, elected by the eligible voters of the islands, divided into sixty or more districts. The electorate is now made up of about 15 per cent. of the males in the islands over twenty-one years of age. There is an educational test which as education spreads in the islands rapidly fits the men of the islands for voting. There are two chambers, the Assembly and the Commission. The Commission is appointed by the Executive. There are three Filipinos upon the Commission and five Americans. In this wise the government goes on, and those who are fitted by their primary and secondary education become electors, they are trained in the public schools, they have the opportunity of going to an industrial school in each province, and many of them avail themselves of this opportunity. Thus we are carrying on in the islands two kinds of education—the primary and secondary, and industrial education in English for the present and coming generation of Filipino youth, and again, by actual practice in government we are teaching the adult Filipino who is eligible to vote the responsibilities of government, and the necessity for self-restraint, so that as a member of the majority he can accord to the minority the right to which they are entitled, and as a member of the minority can abide the government of the majority and insist only on the maintenance of civil liberty and his individual rights. It is necessary to give the first kind of education—that is, the primary and secondary education—in order that the Filipino may learn what his rights are, and learning them may assert them. The great difficulty in dealing with the present condition there is in implanting in the minds and breasts of the Filipinos, whose rights are infringed upon by their own people, what their rights are and how they can be vindicated in court or elsewhere. The government of the United States owes a great debt to the thousand American school teachers who were induced to go to the Philippines to assist in working out the problems, and it is they who have made a success of the policy in the islands. As the education shall spread, the theory upon which the policy was begun is working out. After a generation or two the people of the islands will be so well grounded in English and in the primary and secondary branches of education, and in actual practice in government, that they can probably be trusted to run their government alone. Meantime the United States is dealing with the Philippines in a spirit of the utmost justice. The government which has existed there for ten years is well run; the money drawn from taxes is economically spent; and the islands have changed their character from a country in which there were but few roads and only one

railroad to a country in which the railroad mileage has increased more than five times, and in which the wagon roads have had a similar increase. We have now dealt justly with them by granting them in the last tariff act the markets of the United States, with limitations upon the importation of sugar and tobacco, and the opportunity to come into our market has so improved business in the islands that everybody there is prosperous. The trade between the United States and the Philippines has nearly doubled in a year. The question is whether this work which has been done by the United States for ten years at a very considerable cost and at practically no advantage to it in a pecuniary way is a violation of the Declaration of Independence in that the government thus established is not one entirely dependent upon the consent of the governed. It is one in which the governed have only a partial voice, but it is one which is gradually educating the governed to a point where they can be trusted to carry on their own government.

When the time shall arrive in which the Filipinos can be safely trusted to organize and maintain permanently their own government, and this government shall withdraw from the islands or offer to do so, the proposition of the Declaration of Independence will then have been fulfilled and the government will be a just one, for it will rest on the consent of the governed. Meantime, however, in the absence of the full effects of education, and until the Filipinos as citizens are able to walk alone, there will continue to be a seeming inconsistency between the policy of the Americans in the Philippines and the language of the Declaration of Independence. But I maintain, in the presence of this great audience, whose profession is that of teaching and whose object is that of educating and fitting men to meet the responsibilities of government and to become intelligent patriots, that the methods taken and the procedure that is being followed are in entire accordance with the spirit of that great Declaration, properly interpreted, and are only another instance with that of Cuba of a purely altruistic policy that does credit to the American Republic and is in entire accord with those high principles which were embodied in its Declaration of Independence, and carried into practice in its Federal Constitution.

PRESIDENT'S ADDRESS

SOME DOMINANT TENDENCIES IN AMERICAN EDUCATION

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The relation between education and civilization is so intimate and logical as to constitute an unbreakable bond of cause and effect, and to render it difficult to determine which is cause and which is effect. Changed and changing conditions of life and civilization demand and produce changed and changing conceptions of education. Changing needs arising out of

changing life and civilization must be met by changing systems and methods of education.

Any educational system to be vital and useful in a democracy must have its roots in the life and needs of all the people, must be shaped in accordance with the demands of the present and the ideals for the future. Not only must the needs of an existing civilization be met, but the seeds of future progress therein must be sown thru education in each generation. Education, therefore, must develop the power of modification and mutation as well as the power of adaptation.

In the United States, where the changes in civilization and life have been so rapid and revolutionary, it would be exceedingly strange and distinctly unfortunate were there not continuous educational discussion and criticism, fermentation and unrest, experimentation and investigation, accompanied by changes in conceptions, systems, and methods of education, some progressive and some reactionary. So long as human needs increase and human life grows more complex, there can be in a democracy no cessation in the development of educational systems. To arrest the progress of education is to arrest the progress of civilization. A static system of education means a static system of civilization.

The thoughtful student may easily discern a few potent and permanent tendencies in American education. The greatest good to the greatest number and equality of opportunity to all are fundamental principles of democracy. One logical demand of democracy, therefore, is a system of education that shall provide equality of educational opportunity for all, and that shall best fit each for the greatest service to the greatest number. Out of this logical demand of democracy has grown the demand for industrial or vocational education. This is the first marked tendency in American education to which I desire to invite your attention.

In the aristocratic civilizations of the past, the educational systems were based upon the idea that education was for the preparation of the privileged few for leadership. In their life and industry, the masses of men were left untouched, unlifted, blind followers in the ways marked out by the leaders. With the growth of the democratic spirit, the recognition of the civil and religious rights of the common man, there dawned a new era of liberty on earth. The common man has slowly come to understand that there is no liberty without learning, no equality of opportunity without equality of educational opportunity, guaranteeing to every child, as an inherent right, the chance to develop to the fullest every power in him for effective service.

With this new conception of his educational rights, the common man first demanded an equal chance for his child to obtain the same sort of education that the favored few alone had heretofore enjoyed. In obedience to this demand, a system of free elementary schools was first established, furnishing equality of opportunity to the children of the rich and the

poor, the high and the low, alike, to obtain therein the essentials of intelligence.

With increasing intelligence and broadening vision, this common man, in further declaration of his rights, demanded equality of opportunity for his child to enjoy the advantages of fuller development, thru higher education, until here in America in most of our states, democracy has constructed an educational ladder, from the door of the hovel and the door of the palace, from the kindergarten to the university, without a missing round, up which every child may climb as far as he has the capacity and the time.

With still-increasing intelligence and broadening vision, this common man with his saving common-sense has seen that even this system, modeled as it was at first largely after the traditions of the past for training for leadership alone, was failing to meet the varied needs of the many with their varying tastes, talents, and environment, that the elementary schools were leading only to the secondary schools, the secondary schools only to the college and the university, the college and the university only into the three so-called learned professions—law, medicine, and theology—overcrowding these professions, misleading many unfit ones into them, leading many of the brightest and most ambitious of the children of the industrial masses away from the pursuits of their fathers, and leaving the major industries of the world, in a commercial and industrial age, largely untouched by skill, culture, and training.

Then came his protest and his demand that his schools and colleges should provide courses of study ministering to the varied needs of the many, to fit the common man to meet and solve the common, everyday problems of his life, and to lift his life to a higher plane of efficiency, service, and happiness. In obedience to his protest and demand, the colleges and universities first established elective courses of study, adapted to the varied talents, tastes, and needs of the varied classes of students. The democratization of the courses of study in the colleges and universities, stimulated by the passage of the land-grant acts and the establishment of the land-grant colleges for special education in agriculture and the mechanic arts, has grown apace, until they are now meeting the needs of a much larger class of students and touching helpfully, by preparing leaders, many of the major industries of our country.

But 90 per cent. of the people of the United States make their living by industrial pursuits. Scarcely 5 per cent. of our population ever reach the college or the university. It was, therefore, but another natural evolution of democracy, but another inevitable demand of the common man, that the courses of instruction in the secondary schools should be adapted to the needs of the 95 as well as of the 5 per cent., should lead into life as well as into college, and into industrial pursuits instead of away from them.

Originating in a fundamental need of democracy and humanity, enforced by the insistent demand of the industrial masses, who are the people,

and whose expressed will must at last be the law in a democratic republic, this movement for industrial education must become a fixed part of our educational system everywhere. To guide it wisely is the work and the duty of our profession.

It has its dangers. The apostles of this new truth, blinded by its first dazzling burst of light, in an enthusiasm amounting almost to fanaticism, may lose their educational perspective in their insistence upon industrial or vocational education, may forget that education has any other end but the vocational. In an almost revolutionary reaction from an educational system in which the so-called cultural was made the chief and almost the sole aim of education, under which universal education meant the same sort of education for all sorts of people, it is not unnatural that there should be an over-emphasis of the utilitarian, the vocational, the adaptation of education to the environment and the individuality of every sort of child. In swinging from one extreme that produced men with an education without a vocation, we must not swing to the other extreme that will produce men with a vocation without an education.

In making our schools minister to the new needs of men, arising out of an ever-changing civilization, we must not fail to make them continue to minister to the eternal, the common, the universal needs of men arising out of their common nature and the nature of their common life as parent, citizen, member of society. In making them minister to the material, we must see to it that they also minister sufficiently to the emotional, the imaginative, the æsthetic, in a word, the spiritual. That civilization which does not provide in its educational system for the cultivation of those faculties that fit men to make a life is as surely doomed as is that which fails to provide for the cultivation of those that fit men to make a living.

"Every man needs and should be provided two sorts of education—one to fit him to work, the other to fit him to live." The two sorts should be combined in the same system, proceeding side by side in proper proportion. I agree with those who hold that it would be a fatal blunder to permit in our system of American education the establishment and the maintenance of entirely separate systems of vocational or trade schools. There is no place for peasant schools, for separate schools for special classes of any sort, in a democracy. Such a separation of the purely cultural from the purely practical or vocational in our American system of education would inevitably increase social cleavage along vocational lines, would be uneconomic in effort, time, and money, would prove a disintegrating force, tending to destroy the unity of education and the homogeneity of our population.

By one-sided education for the many we must not drag our civilization down to the deadening level of mere materialism, our average man down to the low plane of a mere machine, fitted to do his work with skill, but without fitness to live his life with happiness and satisfaction to himself

and to others. For the preservation of our democracy and the continuous elevation of our civilization, we must hold together in our system of education, from bottom to top, the cultural and the useful, the practical and the ideal, the material and the spiritual, mingled in proper proportion with due regard for the common needs and also for the special needs of all in every community.

You cannot elevate work unless you elevate the worker. You cannot elevate the worker unless you include in the scheme of his education not only special training for skill but also general training for manhood. For the elevation of the industrial masses to their proper social and civic plane in a democracy, you must send into the industries men trained not only to skillful work but educated also to think, to dream, to feel, to love, to lead, to lift. You cannot measure the greatest worth of a man in our democracy by a money-mad world's tape-line of dollars and cents.

Not on the vulgar mass
Called "work" must sentence pass,
Things done that took the eye and had the price;
O'er which, from level stand,
The low world laid its hand,
Found straightway to its mind, could value in a trice;

But all the world's coarse thumb
And finger failed to plumb,
So passed in making up the main account;
All instincts immature,
All purposes unsure,
That weighed not as his work, yet swelled the
man's amount:

Thoughts hardly to be packed
Into a narrow act,
Fancies that broke through language and escaped,
All I could never be,
All men ignored in me,
This I was worth to God, whose wheel the pitcher shaped.

THE OTIOSE TENDENCY

A distinctly undesirable tendency of American education is otiosity—the antithesis of strenuosity. It is noticeable in elementary, secondary, and college education. Elementary and college education probably suffer most from it. In the elementary school it is probably an extreme reaction from the old education of grind and drudgery. It threatens, however, to end, if unchecked, in an education of gush and dissipation. The old education of grind was based too much, perhaps, upon the pedagogy of birch to force the child to unpleasant tasks. There is danger that the new education will become too dependent upon voluntary interest and will develop no power to drive the will to the discharge of unpleasant duties and to the performance of unpleasant tasks.

Will you pardon me if I suggest that I sometimes fear that a fault too common in many of our best American schools is that of making the way too easy for the child, of leading him too constantly along the line of least resistance, of helping him too much, of explaining too much for him, of working too hard to save him from working? In some of our elementary schools it has come to pass that the children are even forbidden to take books home or to do any studying upon their own initiative, in their own way, out of school, and that little time has been left from recitation for independent study in school. May we not expect from such made-easy and rapid transit methods a crop of intellectually spoiled children, flabby of mind, weak of will, superficial in character, inaccurate in scholarship, doing nothing well except what they like to do? Should they not be taught or trained to do well whatever it is their duty to do, and to find a stimulus of interest in tasks at first unpleasant in the very joy of mastering them?

In seeking to make the way too easy for him, in lifting him too quickly over the hard places, in depriving him of the intellectual and moral struggle from which come strength and power for self-guidance and self-reliance, the teacher wrongs the child. Out yonder in life there will be rough places in the road, there will be mountains of difficulty to overcome, there may be nobody there to help. The child should learn in the little world of the school, which is his life then, to face difficulties bravely, to grapple with them courageously, to rely upon himself to overcome them, and to acquire in overcoming them the strength, the courage, and the confidence to overcome other and greater ones. Thus passing from strength to strength will he be fitted at last for the greater struggle and the greater victory in the greater world.

May not we modern teachers, with all our boasted new pedagogy, still learn some valuable lessons from the old-fashioned schoolmaster, who, if he taught nothing else worth while, taught industry and duty and obedience and self-reliance, hatred of shirking and willingness to drudge where drudgery was necessary for mastery? There is no mastery without drudgery; there is no strength without struggle.

In the moral, the spiritual, and the intellectual world, things worth having have been divinely hedged about with difficulty, with hardness even, mayhap that those attaining them might in the very struggle for their attainment gather the strength that will make them worthy of them, and teach them how to appreciate and use them when attained. The wise in all ages have recognized this great truth. It has found expression again and again in the proverbs and the philosophy of pagan and Christian, even in the myths of the child races. The golden fleece still is guarded by the fiery dragon; Jacob still must wrestle with the Almighty before he wins a new name and has power as a prince with God and man; the flaming sword still stands by the gate of Eden, and *work, work,* is still man's doom and blessing.

A similar tendency to otiosity is noticeable and alarming in college and university education. It is attributable in part perhaps to previous training, but more to the influence of wealth and luxury, of fraternity life, athletics, and "soft" elective courses, which offer temptations to ease and idleness that are well-nigh irresistible to young men of unformed character and unfixed habits.

MORAL EDUCATION

As character always determines the use to which knowledge and training are put, it is of prime importance in education. Unless accompanied with the development of character, conscience, and conviction as guiding principles, the development of power and efficiency thru education may, thru misapplication, become a means of degradation. It is not surprising, therefore, that one of the most marked tendencies in American education is increased emphasis upon moral education, whereby there shall be woven into the warp and woof of the character of the growing child and youth the homely virtues needed for the proper guidance of everyday life. It is as needful and as democratic that our system of education should minister to the moral needs of all classes of our population as that it should minister to their industrial and vocational needs. In this land of teeming immigration, of multiplying factories and shops, of growing cities with their apartment houses and crowded tenements and numberless temptations, when on every hand the forces that tend to cast asunder the home ties, to shorten the hours of family association, to weaken the bonds of parental control, and to decrease the opportunities for moral training in the home are daily multiplying, an increased burden of moral education has been thrown upon the American school.

For the formation and fortification of good character, it is wisely insisted that moral instruction should be given in all our schools by precept, example, and systematic teaching. It should be based, I believe, upon the fundamental teachings of the Book of Books, and the open Bible for moral but not sectarian instruction should have and hold its place in every public school. Example is more potent than precept, willing and doing the right, impelled by the right motive, the formation of right habits from right living, more potent than systematic teaching about right and wrong. "School is not preparation for life; school is life." In schoolroom and on playground the child finds as varied and typical opportunities as men find in the wide world beyond for doing right, for refraining from wrong, for acquiring under proper guidance and stimulation, by observation, imitation, association, and practice, self-restraint, industry, obedience, courage, courtesy, kindness, honesty, purity, charity, and all the other virtues that form and adorn human character.

There is scarcely a school task, duty, or play that cannot be made by a skillful teacher to contribute to the moral education of the child. History and literature and the drama of the world's daily life furnish abundant

material for illustration and inspiration. But over all, above all, more than all, is the daily example, the personal touch, the dynamic influence of the teacher with soul and consecration.

Moral character is not formed by the mere memorizing of moral maxims and ethical principles. Feeling is the real key to it. Right feeling must precede right acting. Feeling, desire, motive, action—these are the steps to virtue or to vice. As a man thinketh in his heart, so is he. The heart of a little child must be kept with all diligence, if out of it shall come the issues of life. More and more are the methods of moral instruction conforming to these fundamental principles taught and illustrated in the writings and lives of the greatest moral reformers and teachers of the ages.

THE ALTRUISTIC TENDENCY

Selfishness and separateness will eat out the heart of any civilization and sow seeds of decay in any system of education. The spirit of all true democracy is essentially altruistic. There is much cause for rejoicing, therefore, in the growth of the altruistic spirit in American civilization and American education. In the business world where competition is sharpest and selfishness most to be expected, there is manifest evidence of a constantly growing sense of obligation by the rich to hold their wealth in trust for the advancement of society and to use it for the benefit of humanity. Perhaps no other century in the annals of time has to its everlasting credit so much of princely philanthropy. Is it too much to hope that even before the close of this twentieth century we shall witness the adoption by the rich everywhere of the high creed of one of the century's princeliest philanthropists, that to die rich should be counted a crime?

The true scholar no longer seeks scholarship solely for personal enjoyment and individual superiority, but rather for social service and the happiness of humanity. Consecration of individual talent and power, of intellectual, moral, and spiritual wealth of every sort to the uplift of all shall at last become the dominant doctrine in every American school.

Every child born into the world in a democracy is not only the parents' child, but also the community's child, the state's child, the nation's child, and humanity's child. Out of every one of those relations grows a duty and an obligation from every one of us to every one of these American children, which we neglect at peril to the family, the community, the state, the nation, society, and all civilization. The school-less child is a menace to the best in all. If the child be not so educated as to lay upon him a reciprocal duty and obligation to render in return when he reaches manhood's estate a service to all, commensurate with that which he has received from all, then education is a failure and the vast expenditure for it a criminal waste.

The fundamental basis of all public education in a democracy must be social and the fundamental aim of it must be altruistic. The individual is

educated at the expense of the public, that he may be able to render to the public the best service of which he is capable; and he should be so educated as to desire and to determine to consecrate his education to such service. There can be no other justification of public education by general taxation. The old education was individualistic; the new education must be altruistic.

This altruistic spirit is but a recognition and an application of democracy's fundamental principles of universal brotherhood, individual responsibility, and social obligation.

THE PEACE MOVEMENT

This peace movement that promises to sweep the world into universal peace, what is it but the natural product of this spirit of democracy and altruism, the fruit in due season of a Christian civilization whose founder was the Prince of Peace, and one of whose cardinal principles for two thousand years has been "Peace on earth, good will toward men"?

But we may cry "Peace, Peace"; we may prate of its beauty to children and to men; we may form our peace societies and hold our peace conferences and enact our peace laws, but peace cometh not by observation—the seat of it is within the heart—the scepter of it is wielded by the spirit. Therefore thru education in the home and school must be cultivated those virtues that make for peace—love, justice, mercy, recognition of the rights of others. These must reign in the hearts of children and rule the spirits of men in all lands before peace can reign o'er all the earth.

It is well to begin with the children in the schools, before the heart is full of din and the world's fierce battles begin, when their tender feet can be more easily led into the paths of peace and their innocent souls more easily attuned to the music of peace. The lion and the lamb shall some day lie down together, but not until a little child shall lead them.

For a' that, and a' that,
It's coming yet, for a' that,
That man to man, the warl' o'er,
Shall brothers be, for a' that.

THE PUBLIC-HEALTH MOVEMENT

This public-health movement that is enlisting the activities of men and women everywhere for the prevention of disease and the preservation of health and life—what is that but the product, too, of this growing spirit of altruism in society, government, and school, a recognition of the fundamental value of healthy bodies as a necessity for the effective application of every sort of education to the doing of a man's work in the world, of the civic duty of preserving the health and prolonging the life of all, to increase the efficiency and prolong the service of all? Disease decreases efficiency, premature death ends it ere it is well begun. What shall it profit a nation if, thru education, it gain all knowledge and all power, intellectual and

spiritual, but, thru disease, lose its physical vigor, its body, by which alone it can translate these into action upon the world?

Such are some of the dominant tendencies in American education shaping and molding the destiny of our democracy. There are conflicts and discords now. There shall be victorious adjustment and concord by and by, for

> I see in part,
> That all, as in some piece of art,
> Is toil co-operant to an end.

"In the Sistine Chapel," says George Herbert Palmer, "Michelangelo has depicted the Almighty moving in clouds over the rugged earth where lies the newly created Adam, hardly aware of himself. The tips of the fingers touch, the Lord's and Adam's, and the huge frame loses its inertness and rears itself into action."

Teachers of America, go forth to your work of lifting humanity into finger touch with the Almighty, unawed by fear, unrestrained by pessimism, sustained by faith in the holiness of your mission, assured that you hold the strategic point in education, which ever must be the strategic point in civilization.

A MESSAGE FROM THE UNITED STATES BUREAU OF EDUCATION

ELMER ELLSWORTH BROWN, UNITED STATES COMMISSIONER OF EDUCATION
WASHINGTON, D.C.

It was an extraordinary legacy that was left to the Bureau of Education by Commissioner William Torrey Harris. The present administration of that office has no finer responsibility than that of maintaining at its best the spirit and tradition which constitute that legacy. There are undoubtedly very few today who would accept in its entirety the philosophical system which Dr. Harris represented. There are few, indeed, who would accept unmodified his plan of educational administration. But his plan and system were the outcome of an elevated and unselfish patriotism. He was an American, and his Americanism was permeated by such devotion to the loftiest thought and the widest learning, that it can never disappear from the educational organization of this country without incalculable loss. At the opening of this report, I desire to pledge anew the office over which he presided, in loyalty to that massive and dominant moral purpose to which Dr. Harris gave his lifelong devotion, and call upon the representatives of all educational systems and educational institutions thruout the land to renew allegiance to that ideal.

The President of the National Education Association has asked me to bring at this time a message from the Federal Bureau of Education, and has intimated that such a message might properly find a place on each annual program of this organization. There is an historic reason back of

this suggestion. The Bureau of Education is, in a sense, the child of the National Association, having been brought into being at the immediate instance of the National Association of State and City School Superintendents, which was the forerunner of the present Department of Superintendence.

My statement made in response to this call shall be a brief one; but I hope it may show that the Federal Education Office is maintaining its continuity with the work begun by Dr. Harris and his predecessors, while at the same time it is facing the new needs of these later days in ways in which there is no precedent for its guidance.

The task is the double one of making an effective instrument and then of turning it to some worthy use.

Within the past year the instrument, that is, the Bureau as it may be seen from without, has been greatly changed. It has left its outgrown shell by the unresting sea of Eighth and G Streets and has entered into dignified and commodious quarters under one of the Federal Government's own roofs. It has, indeed, been taken into the bosom of the national family. Its library, which had previously been reorganized, has now been rearranged in its new quarters for practical service. A vigorous new division has been erected, that of school administration, which deals particularly with matters of interest to state and city education offices. A beginning has been made in what may be termed a field service, a service which has already engaged a good portion of the time of two specialists, those in school administration and in the work of the land-grant colleges. This service is to be further extended. Provision has been made by Congress for two important additions to the staff, namely those of Editor and of Specialist in Higher Education. The new specialist will be engaged, both at the office and in the field, with work in connection with our colleges and universities. A great campaign has recently been undertaken by friends of the Bureau with a view to the wide extension of this new service in the field, which promises to give us within the near future an instrument for more generous and far-reaching activities. It is earnestly desired and hoped that this campaign may meet with abundant success.

It is not generally known that this Office is equipped with one of the most extensive educational experiment stations in the world. It is an experiment station embracing some five hundred and eighty thousand square miles of territory, with two thousand five hundred miles of sea coast, sparsely populated with some thirty thousand natives of different backward races, Indian, Aleut, and Eskimo. Such a practice school presents the white man's burden in its most concrete form, with all of the difficulties and all of the inspiring opportunities presented by the world-education movement of our time. There in Alaska the school physician and the school nurse are now going up and down, helping the people in their sicknesses, and teaching them how to live clean and wholesome lives. The girls are

learning to cook and to sew and to make good homes. The boys are learning to earn an honest livelihood under their new conditions, by new industrial pursuits, by the raising of reindeer, by improved fishing, gardening, and the use of common tools. They are learning something of the white man's wisdom and the white man's better aims in life. These things are to help them in their new relations with the white man, who must inevitably be their neighbor and their fellow-laborer. The end in view is the training of these people to self-reliance and ultimate self-government.

There is only one thing more to be said at this time about the strengthening of the Bureau as an instrument, and that is to refer to the strengthening of its relations with other government offices. It is true everywhere, and notably true in Washington, that an isolated office is likely to be a weak and crippled office. Among the most important steps that have been taken of late in the building-up of this Bureau have been the arrangements which have been made for close co-operation with the Library of Congress and with the Bureau of the Census. Connection with the Census Office has received especial attention during the past year. That office is now rendering invaluable assistance in the effort to secure more nearly uniform and therefore more informing statistics concerning our great state and city systems of education.

The chief accounting officers of a number of our city school systems have now formed a national association which in its turn will co-operate with these two offices at Washington. A committee was appointed at the Indianapolis meeting of our Department of Superintendence for a somewhat similar purpose. This gives us a strong combination of those interested in the improvement of school accounts and school reports. We have now more reason than ever before to hope that the reproach which has lain against our school reports, that they do not tell an intelligible tale, is soon to be a thing of the past. Everybody has a personal interest in such a change, for to have more illuminating reports will mean to have so much the better schools.

This is all that it seems necessary to say at this time regarding the tool. Now, what is the larger work which the improved tool may be expected to do?

It is the business of the Bureau to collect and diffuse such information as shall help the people of the United States to establish better systems of schools. On the face of it this business would seem to be simply that of information and not that of propaganda. In a sense this is true. The office is to be a scientific office, with scientific impartiality toward the facts which it reports. But it cannot be indifferent to the facts which it reports. It must view them with reference to the improvement of our educational systems. The field in which its investigations shall be made must be selected with reference to public needs. It must call attention to the significance of the facts presented, with some positive conviction as to the

directions in which there is need of improvement. It has indeed a mission. It has a propaganda. It is concerned all of the time with the effort to make for this country a better education of all of the people. Some of the directions which this endeavor should take in the immediate future may be mentioned here.

We are still unable in this country to give to all of our citizens anything like a fair chance at an education. We still have some illiteracy. We still have great numbers of pupils leaving the schools before they have received a proper elementary education. There are portions of the country which are at great disadvantage as compared with others in these respects. This office of information must keep on setting forth the actual state of our school attendance, so far as it can be determined, and must reiterate the call of these simple facts to efforts for the improvement of school attendance.

The improvement of school attendance must go hand in hand with the abatement of child labor and numerous other undertakings for the general welfare of childhood. It is the business of a central office to call repeated attention to these relationships, and to help those who are at work in neighboring fields to work together for their common ends.

We need to press home such information as will lead to the improvement of our school buildings. In a country which is spending seventy-three million dollars a year for the construction, equipment, and repair of its buildings for school purposes, such information as would lead to an improvement of only 1 per cent. as regards this expenditure would cause an aggregate annual saving of no mean sum; while the saving of the health of pupils, which can be accomplished thru more hygienic construction, is an incomparably greater concern.

In a thousand ways the improvement of health thru education is now in progress. An agency which, thru the gentle force of clear information, can bring these ways into unison and prevent the waste of misdirected efforts, will prove itself a national benefit.

Industrial education is with us, in its three main forms of trade schools, schools of housekeeping, and schools for rural life. It is every day raising more questions than anyone as yet can answer. Such an office as the Bureau of Education is to overlook this whole field and keep incessant inquiries under way, all over the world, with a view to finding the best answers to the most urgent of these questions. But here again, it is not information alone that is needed. Our new efforts at industrial education are pulled this way and that by inharmonious aims and conflicting interests. A National Office concerned with these things must make the constant endeavor to persuade those discordant forces into unity of aim, and that effectiveness which comes from unity. At this point alone there is a patriotic service to be rendered, the value of which no man can estimate.

I shall make no attempt at any complete enumeration. It is easy to see how important are many of the other undertakings which must be passed

over here from sheer lack of time: the supervision of rural schools, improvements in the training of teachers, the relation of secondary schools to colleges and universities and to the life outside of colleges and universities. And then the great work of higher and professional education—a world within itself—there never has been a time when a mediating agency was more needed in this field. Such an agency should help our institutions of higher learning to do a common work for the country at large. State institutions and those under private control; graduate schools, which are beginning to appreciate the evils of institutional isolation; and schools of medicine and law, in which the problems of isolation, affiliation, and standards generally are reaching their acute and critical stage: the time calls unmistakably for a central agency strong enough to deal with questions such as these, and wise enough to deal with them by way of effective influence without arrogating any fictitious authority.

In the near future, without doubt, a general reorganization of the federal agencies of education must be frankly considered. Some of the questions subsidiary to such reorganization are already under discussion. Four of them may be mentioned here:

Shall we have a National Department of Education, co-ordinate with the nine departments now in existence?

Shall we have at Washington a National University?

Shall we have an extension of federal aid to education in the states, particularly in the form of federal aid to industrial education?

Shall a federal office be erected to concern itself with the general welfare of our child citizens?

These questions are a challenge addressed to the educational thought of the nation as well as to the political thought of the nation. I have confidence that the educational leadership of our time will meet those questions squarely. Our political leaders have a right to expect courageous and competent advice from the leaders of education, when questions such as these shall come up for legislative action.

I will not take your time for any extended discussion of these proposals. One general point of view, however, calls for emphasis.

Education is no longer an interest subsidiary to other interests. It has become one of the independent and dominant concerns of modern societies, and particularly of democratic societies. We may make such administrative arrangements from time to time as may be found workable and possible. But we must expect education to be eventually the organizing center which shall draw to itself and adjust to one another all of those governmental agencies which are directly concerned with purely human betterment.

But while the greater things are taking shape, the Bureau of Education is to go on doing more and more of its appointed work. That appointed work, stated in other than legal terms, is to make sporadic educational excellence contagious, and make the contagion of educational improvement an epidemic. Let me close with an illustration:

Not long ago I was at a university commencement, where, among others, a class from the law school received their appropriate degrees. When he came to one of the young men, the president stopped and explained to the audience this candidate's peculiar case. To begin with he was deaf, and was unable to speak. Early in his senior year, in a football accident, he had lost the sight of one of his eyes, and that of the other was threatened for a time. When he was nearly recovered, his president, visiting him in the hospital, offered condolence in view of the probability that he would be unable to complete his course. He took the pad and wrote across it, "I've one good eye left and I'll make it yet." That young man was a negro in a southern negro school. His neighbors, white and colored, had confidence in him, and they joined in long applause when he received his diploma. He made it, with a single eye; and I am glad to acknowledge the lesson that I learned from him. If by any means we can make such educational spirit as his contagious and even epidemic in this wide and susceptible country of ours, no one of us will have labored in vain.

WILLIAM TORREY HARRIS

JAMES M. GREENWOOD, SUPERINTENDENT OF SCHOOLS
KANSAS CITY, MO.

Today there is a vacancy in each heart here that ever came in close contact with the vigorous personality of William Torrey Harris, who died in his seventy-fourth year, November 5, 1909, at Providence, Rhode Island. In my office his picture hangs on the wall, and as I turn toward it, the eye and the lips seem ready to speak to me of things eternal. Somehow I feel as I look upon his face pictured there, that this life is only earth's vestibule to a higher and a better one. It is the same calm face that said to me scarce two years ago: "I have now commenced the reading of Hegel's *Philosophy of History* for the seventeenth time, and I shall get more out of it at this reading than at any previous one." This simple statement is characteristic of his entire life, indicating energy, courage, and great tenacity of purpose, and forming a background of character as clear cut as polished steel. Handicapped, yet as housekeeper and cook, student and athlete, he emerged from Yale College after reaching his majority and settled in St. Louis in 1857. Here he worked and studied for nearly a quarter of a century, becoming the greatest and sanest intellectual and educational force in this country which has been lavish in its production of vigorous men and women. His personal experience was wide and deep among men and women of keen perceptions and strong convictions.

He possessed ability of the very highest order, an intellectual energy that was tireless, and a physical constitution that could endure equal to Napoleon's. Thruout these years he studied the greatest thoughts of the greatest men that this earth had produced. In all his work he displayed

the genius of industry, a keen insight, and a well-balanced and unbiased judgment upon every subject that he investigated. His mind was titanic in its structure and modes of thought, and as he rose and passed across the educational horizon of his native land, he cast a light that will shine undimmed down the ages. He always looked for and sought the genesis of things. Whether with the microscope, the telescope, or the eye of reason, into whatever region of knowledge he penetrated, he always came back to man as that something which remained unchanged thru a changeable world—a something that bound the life of the child, the adult, and the aged man into one continuous stream of purpose and action. In whatever region he turned his thoughts, he saw clearly beneath this fleeting phenomenon the permanent and the real—the clear idea of the individual and of the absolute reason. His mission was not to startle men and women with new doctrines founded upon false or doubtful hypotheses, but to make clear to them the great truths that lie about us everywhere which are wholly or partially obscured. By pondering over the fundamental questions of existence, of institutions, of history, of the sciences, of art, of religion and philosophy, he would bring into the field of thinking that certainty which each has that he exists, and to know he is a rational being that feels and loves and aspires to satisfy yearnings yet unsatisfied.

William Torrey Harris was fortunate indeed when he chose in early manhood St. Louis for his home. His intellect there was unfettered by traditions that would have cramped his aspirations in some other localities. The society into which he flung himself was in a continual flux not tied down between leading strings. For years he associated with a coterie of as profound and brilliant men and women as could be assembled elsewhere on this continent. This, too, was the era when some of the greatest thoughts in the scientific world were startling and challenging the attention of thinking men in Europe and in America. The doctrines of Kant, Laplace, Lagrange, Humbolt, and Lyell, were in some respects being replaced by those of Wallace, Darwin, Mayer, Huxley, Spencer, Baird, and others in the natural sciences; while Boole, Sir William Rowan Hamilton, and other continental analysts, building mostly on the foundations of the great masters who had preceded them, were making wonderful contributions to the department of pure and applied mathematics. Bold minds were pushing out into new and unexplored fields everywhere. Upon every hand was an undercurrent of feeling that in the physical universe from the minutest particle to the largest sun in infinite space, law rules supreme—that every department of knowledge is subject to an unvarying uniformity in the organic and inorganic realms; nay, that all human institutions embracing the nations of the earth, formed no exception to the rule of the universality of law. While these schoolmasters of the race were formulating and giving to the world their theories, William Torrey Harris was studying most closely and analyzing and inventorying most patiently and accurately what these

and others had done and were doing in their special fields of investigation; and while believing most firmly in great underlying principles as the groundwork of everything permanent and valuable, he decided to do a similar kind of work in education for the unfoldment of human character as Laplace, Lagrange, Gauss, Peirce, Boole, Sylvester, Cayley, and others had done for mathematics; what Humboldt, Lyell, Agassiz, Wallace, Darwin, Huxley, Spencer, and others had achieved in the organic and inorganic sciences; what Marshall, Story, Webster, Calhoun, Hayne, Wright, and Choate, guided by Hamilton, Madison, and Jay, had done in fixing the principles of constitutional government for the United States. It is true that Jefferson, Horace Mann, Bishop Potter, the elder Beecher, and Alexander Campbell in our own country had spoken powerfully in favor of education of the masses in order that republican form of government might be saved from anarchy. But his sphere of work lay in another direction, that of critically interrogating human nature and human institutions, and then determining what factors in these are permanent and what ones transitory and whether they could be brought within the realm of educational law as implicitly existing in man's thinking-processes. Across the historic pages he saw that some men had cut deep channels in every part of the world's history wherever men had combined to secure and maintain permanent possession of property within prescribed limits. All his investigations were confined to civilized races. Savages had no history anterior to civilization, and the wild man had no great attraction for him prior to the taming of his instincts in obedience to the civil and moral law. A scheme of education, however well devised, without a thoro knowledge of the persons to which it can be applied, would have only an abstract value. And all his reflections centered about established and well-organized institutions, the home, the church, the school, and the state. As others studied plants and animals in the wild or domestic state, he studied man in civil society. Whatever line of research he undertook he brought the highest order of analysis and constructive ability to its investigation. Thus he stimulated others in their activities by virtue of his clear thinking and judicial attitude. His special work was to gather up and to arrange concrete phenomena under general law and show how these included the highest results of human reason. By the most searching analysis, he separated complex phenomena into their simplest elements and placed each where it belonged. Literally he would pluck up a subject by its roots, and in the clearest sunshine examine each of its constituent elements and classify them one by one. In this respect his mind was one of the most searching and critical of any age. Whether dealing with abstractions or real things, he never wavered in his steadfast course. Having sounded the depths of knowledge with unerring line and plummet, he moved forward from premise to premise with a force as irresistible as fate. He built up his arguments into a system out of which he formulated the laws of logical analysis and classification.

When he had passed in review thru the first stage in knowing and entered upon the second, or the relativity of knowledge, he clearly perceived that any one science is only a bough of something else deeper down. Every science touches other sciences at numerous points of contact. He was pre-eminently a truth-hunter who would know what a thing is and what it is not in order to know its history and its destiny. His materialistic problem was to convert the forces of the world into such forms that man could handle them. His spiritual problem was freedom and immortality of the soul, guided by higher specialized intelligence. The ablest living advocate of the freedom of the human will as opposed to a conscienceless mechanism, he recognized for each the privilege of making the most of himself as an independent and self-centered personality. It was only a step then to the achievement in the realm of matter and mind as man's special prerogative.

By looking steadfastly at institutions he saw their significance in the systems of administration and jurisprudence which safeguarded property, conferred personal rights and privileges, and enforced contracts. There could be no higher degree of intelligence developed above that of the uncivilized tribes, unless these rights and duties were enforced. Man can be elevated only thru a good system of religion, a good system of morals, and a good system of politics. Physical causes produce physical effects and intellectual and moral causes produce their corresponding effects. These principles being deeply imbedded in the universal consciousness of mankind, he longed to see humanity not living in the basement, but on the first, second, and third floors. History had taught him the great lesson that in the stream of life men are sifted and sorted, the few to rise, the majority to sink into a dead level; but the hope of the world was in the elevation of the masses, guided by intelligent leadership in the active practice of the highest forms of moral and civic virtues. Because men succeeded by honorable means in great undertakings, he did not regard their successes as crimes against humanity.

The most important of the world's work, as he saw it, was to elevate the natural instincts of man thru the appointed channels of civilization by reducing his habits of thoughts and actions to a reasoned system of rights, duties, and obligations, and among these he recognized duties, customs, and actions as of pre-eminent worth in the formation of character.

In education he dug down into the neglected and forgotten elements to find a sure foundation upon which to build. In this search he brought to light the "five windows of the soul" thru which the different kinds of knowledge reach the mind and are systematized by it. A human being thus became of infinitely more value than a mere animal which turns what it lives on into a manufactured article for man's consumption. The silent forces of life, working like the molecular forces in the department of physics, are the most powerful in the shaping of character. Education, character, life itself, all combined are properly classed as a growth purposefully developed, and learning is also a process of continuous growth.

His outward speech was the expression of his inward thoughts and feelings which had been maturely considered before utterance. Whether he followed Plato, Aristotle, Thomas Aquinas, Edwards, Kant, Hegel, Hamilton, John Stuart Mill, or Herbert Spencer, he would classify all their thoughts by the three phases of knowing which he had discovered and elucidated, and then further test the conclusions each had reached by an application of the valid and invalid modes of the syllogism. Back of the syllogistic forms he instituted a critical investigation as to why the modes of the figures are arranged in definite orders. Starting with the conclusion that grammar shows the logical structure of language, and that language reveals the structure of reason, and that all speech takes the form of a judgment, he ascertained that the mind acts in conformity to the syllogistic modes in a specific manner when interpreting sensuous ideas, abstract ideas, or ideas of the absolute. Even the mind itself, unless unhinged, works according to law.

So far as I know, he was the first who analyzed the different figures of the syllogism for the purpose of showing what kind of knowledge each represents and how it is arranged. He demonstrated how in sense-perception, which is a low grade of thinking, the mind "uses the second, first, and third figures; in the handling of abstract ideas, the third, first, and second figures; and in the absolute idea, it uses the third figure." From a critical examination he was led to inquire—what significance have the syllogistic figures in psychology? This clue was no doubt derived from Hegel, who was the first to point out that each form of life had a corresponding "syllogistic structure and likewise the inorganic world is correspondingly dominated." A deeper meaning is implicitly involved in the figured syllogisms as not only furnishing rules for testing thoughts, but how the mind unconsciously thinks its thoughts according to the principles involved in the very structure of the syllogism. His special interpretation and application of the syllogism revealed to thinkers a deeper meaning in the logic of thought as to its background than any others had ever discovered, and of which only Hegel and Everett had caught glimpses. Once in this field and seeing how fruitful it was, it was an easy step to take up each of the subjects that entered into the curricula of the elementary school, the high school, and the college, and to determine its bearing on all the other departments of learning, and to map out the special sphere of each. Thus, it is evident how this mental procedure gave rise to his famous expression—"The five windows of the soul."

From his reflections on the dominant ideas composing each of the branches pursued in the elementary schools, the secondary schools, and the colleges, he perceived how they naturally fell into five co-ordinate groups and that each group ought to be represented in each year's work thruout these continuous courses. His chief contribution to the philosophy of education lies in this classification, in which is demonstrated what categories

of the mind are actually employed in pursuing any one of these groups of studies.

It is thru mathematics as an instrument that a tool is furnished for dealing with bodies and their various kinds of motion in time and space. Mathematics thus enables man to command nature in its quantitative aspect. As powerful as this solvent is, it has its limitations. Its realm, however much extended and symbolized in measuring space, time, matter, force, and energies, cannot be applied to any considerable extent to the processes of organic life. While one may study the mechanical action of forces as manifested in the plant, even here everything quantitative and mathematical is of a different form from that of the life-principle itself. There is a biological something in the plant or the animal which determines it to follow after its kind. All the mechanical forces, such as light, heat, electricity, and gravitation, are best studied and comprehended from the standpoint of mathematics. Yet thought in its practical aspects as well as in its deeper phases will be static, dynamic, or combination, just as human minds may be fixed, fluid, or plastic.

Rising out of the inorganic world which presupposes the organic, the second includes all the studies relating to plants and animals—the growth of material for food, clothing, shelter, transportation, and culture. This internal principle in inorganic nature builds for itself from the surrounding material a structure in which to dwell. The animal uses the inorganic and organic substances, drawing from its surroundings salts and acids, and thru its instrumentalities converting vegetable substances into tissue by the use of heat, light, and electricity. It is a striving to express itself after its own form.

This life-process is not mathematical, neither is it mechanically moved by a force without or within. There is a formative principle which is the prime mover and modifier that mysteriously builds up the organic structure. It is true that at many points these two phases, the inorganic and the organic, overlap, nevertheless they exhaust the field of nature. They include two vast areas of science, pure and abstract, in their wide applications, and some have gone so far as to make them include all knowledge. From a few fundamental conceptions pure and applied mathematics have been built up into one of the most comprehensive and far-reaching systems that the mind of man has yet constructed. Yet there are vast fields where it is utterly helpless as an efficient agent. Neither can the most skillful biologists apply the methods of their department to outside spheres. Projected in bold relief, Dr Harris showed what instruments as tools man employs to comprehend the inorganic and the organic kingdoms in standard terms of his own thinking.

The significance of his discoveries and classifications was not fully recognized or comprehended while he was among us. Had they been, a

great deal of fruitless effort and senseless experimentation on the children would have been avoided. He formulated new and safe lines of pedagogical procedure which are rational. Unwittingly would-be reformers often stumble into bottomless pits. To cause leaders of educational thought to consider the whence and the whither of what they were doing was his object in speaking to the educators of the world. He was a conspicuously clear and safe leader in educational philosophy. He had worked thru each subject and determined its bearings on the life of the citizen in a free government under the conditions of time and opportunity. Under his conception the world for helpful co-operative purposes was growing very small, and he was writing on the world's blackboard for all time. As he often expressed it: "We can afford to wait." His instincts were always centered on the eternal verities in each subject. The superficial he never tolerated, and passing popular bursts of educational reformation had no charm for him any more than red-handed anarchy as a substitute for constitutional government. His earliest training had been to look at all things straight in the face and to see what they contained. To bring truth to light among men was his mission and this he did in many ways. When the entire country went wild on supplementary reading in the elementary schools, he called attention to the great value of strong, short literary unities for young and growing minds; these selections were to be taken from a large list of the choicest authors, thru a careful study of which the learner's mind would be influenced by noble thoughts and enriched by a select and extensive vocabulary.

The universal cry from the secondary schools, colleges, and universities in regard to the chaotic conditions of teaching English and the woeful results now obtained are mainly traceable to methods and their tendencies which he clearly foresaw twenty years ago and pointed out. He saw the need of something logical and eternal in the elementary schools.

Under the influences of superficial science teaching in many high places and in magazines and the daily press, he saw that a mechanical explanation of the world is a system of mere surface thinking which was making deep inroads on religious faith in the unseen. A mind so constituted as his was, analytical, critical, constructive, and with a firm belief in human responsibilities and the immortality of the soul, would naturally view with deep apprehension the undermining of the Christian faith and the loosening of the unseen foundations of society. To combat the agnostic influences at work in society, he studied most diligently the Church Fathers, Dante, Christian art and hymns, fate and freedom, and all phases of materialistic and spiritual philosophy, and in his lectures on the Christian religion and its necessity to humanity, he was the ablest defender that appeared on the platform during the last quarter of a century. He met the scoffer on his chosen field and there answered him most completely. In thus speaking of him in this connection, I class him with Professor C. C. Everett

and Professor Borden Bowne, and these three, as I estimate ability, were the clearest and ablest and sanest thinkers in this special department our country has yet produced.

Dr. Harris was one of the most philosophic and artistic interpreters of music, literature, sculpture, painting, and architecture that either Europe or America has produced. These were all expressions indicating the height and the depth of the aspirations of the human soul in endeavoring to transcend the world of sensuous impressions. They were means of conveying to humanity what man strives to accomplish and to transmit his thoughts and feelings to the oncoming waves of future generations. Only the few who came in close personal contact with him knew the riches of his wonderful mind or the sweet persuasive influence of his nature. On another occasion I have drawn the curtain partly aside that others may catch some glimpses of him as a few knew him.

He shed a steady and clear light on every question that he ever presented to the National Education Association. His contributions covered the most diversified fields of thought. He was equally at home in all. Undoubtedly he was the best-informed all-round citizen of this country. For more than sixty-five years he had been a learner and a thinker. In far-reaching constructive statesmanship, he would have ranked with the very ablest in Europe or in America. As an interpreter of history, of political institutions, of the civil and moral law, and of sociological, economic, and social conditions, he was unexcelled even by those who are specialists each in his own chosen field. But in the realm of psychology, philosophy, and logic in their bearing on systems of education, he stood head and shoulders above all others on this continent if not in the world. He was the many-sided scholar, philosopher, and educator—great in the simplicity of his character.

Little appreciated while here among us, yet the living and those that come after us will turn more frequently to his published addresses as sources of information, of inspiration, and of wisdom than to those of any other of America's great educators and philosophers. His rank is among the world's greatest men and his statue should be placed in the "Hall of Fame" in our national capitol as a recognition of his contribution to scholarship, education, and philosophy.

THE CRITICISMS OF THE PUBLIC SCHOOLS BY THE LAITY

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Society is divided into two classes—teachers and the laity. These two classes are very intimately related to each other. All teachers formerly belonged to the laity. They passed successfully the examinations, received certificates, secured schools, and became teachers. The laity likewise

receives recruits from the teaching ranks, receiving each year, it is said, nearly one-fifth of all those engaged in the teaching service.

Teachers and laity have not only come largely from each other but they have intermarried to such an extent that there is no telling how much dissatisfaction and adverse criticism among the laity comes directly or indirectly from teachers themselves. It may be shown in this same way that the confidence of the laity in the public schools is also largely traceable to the teacher's influence.

There are three classes of the laity who pass criticism upon the schools: (1) the smallest, least important, but most annoying, is the class known as the chronic faultfinders; (2) a much larger and more dangerous class composed of those whose disapproval has back of it something personal and selfish; (3) the larger class of people whose criticism grows out of their loyalty to the public schools coupled with their interest in young people and a genuine desire to promote their welfare.

A somewhat careful study of the faultfinders, in ten typical country schools and in ten typical smaller city schools, shows:

(1) That the number is limited, there being only nine who could properly be called chronic kickers in the ten districts and thirty-seven in the ten towns.

(2) That in every instance these same people complain about other things besides school affairs, as a rule fighting most bitterly that in which the community is most deeply interested.

(3) That the criticisms are trivial, usually reflecting on the methods of teaching, methods of discipline, personality of teacher or superintendent, and the methods of business employed by the board of education.

(4) That while the criticisms are exceedingly annoying to the teacher in charge of the particular school, they are of little value to those who are gathering suggestions for improving the efficiency of the schools. They seldom touch upon essential points or upon organic weaknesses.

The chronic faultfinder is one of the teacher's worst problems. At some period of his life every school teacher has dreamed of the time when all the faultfinders would be dead, or else transformed into angels of kindness; of the time when all the bitter tongues would have grown tired and still, and the only sounds to reach his ear, the pleasant tones of commendation. But always in the gray of dawn he awakes to find that the kickers still live, and that their numbers have not decreased.

The person who has made a careful study of facts and conditions is worthy of listeners at least. The chronic faultfinder, however, has no place in this class. He is the obstinate individual who is never suited. Whatever is, is wrong. Whatever plan is adopted, he attacks. If the discipline is strong, it is an outrage; if it is mild, he brands it as a failure. In one breath the children are worked almost to death; in the next they are not forced to study at all. He can see that other schools are all right, but this particular school is a fraud and a delusion.

The faultfinder does not represent the educational policy of the laity.

The people ridicule and disown him. His conduct is just as irritating to the Board of Education, and to citizens interested in the welfare of the schools, as it is to the teacher, or to the superintendent. But these are the burdens that every teacher, principal, and superintendent must bear. Everyone must learn to accept with resignation the fact that the chronic faultfinder is now and always will be a part of his life. He has a right to criticize, and he is going to do it. The teacher must learn to bear it all with composure, and to reduce to a minimum the worry resulting from it.

Now, as to the second class—those who criticize because of some personal grievance and for other selfish reasons. It is well known that city superintendents are in the habit of searching for the motive, or as they term it, the "sore spot," and that they often find back of the criticism something like the following: defeated for a place on the board; daughter failed to secure a position in the schools; the superintendent or teacher belongs to the wrong church; a relative or political friend not chosen as janitor; competitor given the contract for coal or for school supplies; child received low grades; boy punished for some school offense; daughter not promoted or graduated; dislikes personally some teacher or member of her family.

These people are the cause of most of the more deep-seated difficulties that confront the management of the school. They are the more dangerous because they are often able to conceal their real motives from the community. They claim to have and are often supposed to have a genuine interest in the growth and prosperity of the school, and yet they resort to any extreme in order to get even with the superintendent, teacher, or board member.

It sometimes looks as if a man fights harder to punish someone he hates, than to protect one in whom he has confidence; that he devotes more time, energy, and ingenuity in an effort to retard the progress of the school, because of some trifling grievance, than an equally strong man deeply interested in the schools puts forth in defending worthy teachers and in protecting a good school. A man actuated by the motive of revenge has little difficulty in ferreting out real mistakes of those managing the schools, and of discovering organic weakness in the school itself. Then presenting these with earnestness and apparent sincerity he easily convinces his neighbors that there is something radically wrong. His motive may not be discovered in time to prevent more or less damaging results.

However contemptible, this man is likely now and then to uncover some real defect which the superintendent would not know without his assistance. Of course the superintendent wisely profits by such knowledge. We do not disregard truth simply because it is picked up by soiled hands. But the greatest good comes not from the worst but from the best people. To the school it comes from those most deeply interested in young people, and in their education for efficiency.

Tho we naturally dread the criticism that comes from faultfinders and from men of questionable motives, we welcome the opinion of any thoughtful man. There is no war on honest criticism. It is the breeze that keeps the educational atmosphere clear. True criticism is a corrective agency and the teacher's best friend. It is the impelling force that leads one to search for that which is best.

This leads to a discussion of the third class, those who believe in the school, and who are loyal to its interests. Again, a meager investigation has been made to gather a few concrete facts, and some data from the people themselves, before arriving at a conclusion. The effort has been made to get the actual views of the people, from different standpoints.

First, the following questions were sent out to over three hundred thoroly reliable business men in the various parts of a western state, the aim being to get their honest opinion as to whether the schools as at present organized do their part in preparing young people for the places they must occupy immediately after leaving school:

Question: In the case of a young person entering your employ, would you consider his school record of any value?

Of the two hundred and ten replies, the tabulation shows two hundred and seven *yes*, three *no*. The letters, however, of those answering *yes* usually indicate also that the school might give a still better preparation for service.

Question: Would you give high-school graduates the preference over those who have not taken such a course?

Some of the typical answers to this question are:

Everything else being equal, I most certainly would.

It depends on the kind of work done in the high school. Some high schools lead pupils to despise honest toil.

I would prefer the high-school graduate but would be glad if he were more practical.

I seldom make inquiry as to scholarship, but it would be better, I think, if I should.

I prefer the young man with an education as soon as he can be brought down to earth.

I think the preparation the schools give excellent, but I prefer to teach them the principles of my business after they come to me.

Again, many suggest that the high school might give a better preparation. One hundred and ninety-six prefer the high-school graduate, whereas fourteen are either uncertain or prefer those who are not graduates.

Question: Is a college education desirable for a business man?

Answers:

Always desirable.

Desirable but not essential.

That depends on the man and the college.

Not essential to the business but to the outside life.

It is important in making life mean more.

I fear a college education hinders from the standpoint of making money, as college notions and college habits do not prepare for a business life.

If valuable, it must be obtained in early life.

Worth as much to a business man as to a professional man.

Graduation from technical colleges means more than graduation from general groups.

The tabulation: *Yes*, one hundred and fifty; *No*, twenty; *Don't know*, thirty-two; *No answer*, eight. Many of those who answer "Yes" show by their answers that they are not entirely satisfied with the kind of training given in the colleges, tho better satisfied, evidently, than with the high schools.

In order to test further the attitude of these same men toward the schools, the following questions were included in the list sent out:

Question: Are the moral standards of the high school satisfactory?

Answers:

Higher than could be expected when the home life of students is taken into account.

The moral standards do not vary greatly from the ideals of the superintendent and faculty.

It is to be regretted that dancing and card playing are encouraged so much by the school.

One indiscreet, careless high-school teacher may perceptibly lower the standard of conduct of the entire body of students.

It all depends on the teachers.

The moral standards are good enough. Parents of low ideals are the ones who criticize the schools.

The tabulation shows: *Yes*, ninety-five; *No*, thirty; *Don't know*, fifty-six; *No answer* to this question, twenty-nine. Again the answers are more favorable than the tabulation indicates, as many of those answering "No" show by the tone of their replies that they are not necessarily dissatisfied with the school but that they believe further improvement should be made along this line.

Question: In the main are the public schools making the progress that should be made?

Answers:

Making better progress than could reasonably be expected.

Going so fast that it makes our heads swim.

If measured by the increased taxes for school purposes, the progress is ample.

They are broadening and spreading; not so sure of real progress.

The progress is not in the right direction.

The answers to this question, tho not in form for tabulation, show in the main that these men are proud of the progress that has been made.

The answers to these questions, and to several others not included in this paper, show that business men are reasonable in their criticism. They have the fullest confidence in the superintendent and are quite willing to leave the problems of the school to him. They will evidently be satisfied with his judgment. This does not mean that school conditions cannot be improved. It does not mean that teachers and superintendents should let well enough alone. It simply means that school experts have the good will and the confidence of business men in their efforts to improve upon present school conditions.

The great majority of business men are pleased with the work of the common school, the high school, and the college, but, like the educators in

that respect, they see certain weaknesses that demand thoughtful attention on the part of those in charge of the schools. They have serious doubts as to the wisdom of some educational policies, and very often they are right in their views.

The following question was sent to each of one hundred and ten other representatives of the laity in order to get at a few specific weaknesses of the school from the standpoint of the people:

In your judgment, what is the greatest weakness in our public high school as at present organized and conducted?

Eighty-two answers were received. Some few supposed there were weaknesses but preferred to leave it to educators to find them. Only one was *greatly* dissatisfied with the schools.

The answers show faith in teachers and great confidence in the schools. Often the writer apologizes for assuming to criticize at all. Some of the typical answers are:

The high school does not fit boys and girls to earn a living.

The work is theoretical, visionary, and impractical.

It prepares too much for college and not enough for making a living.

Not sufficient emphasis is placed on the common branches.

The greatest weakness is the lack of accuracy and thoroness.

Not teaching to do things.

Not teaching the proper care of public property and respect for older people.

The school neglects the development of the moral and physical nature.

It interests young people too much in late evenings.

The pupil is not taught how to study.

Lack of attention to agriculture, domestic science, and other forms of industrial work.

Pupils' energies scattered over too many subjects in school and among too many school interests on the side.

Lowering moral standards by football, basket-ball, etc.

Waste of time and effort.

Too little attention given to the vocational.

An inexcusable weakness is the gap between the grades and the high school. Why not let the high school follow the grades naturally instead of hooking onto the college and leaving its feet dangling in the air as at present?

It may be interesting to note that out of fifty-four of the answers most conscientiously and carefully prepared:

Twenty-six mention in some way or other that the high school is not doing enough in fitting boys and girls for earning a living;

Eight seem to hold the college in a measure responsible for the lack of balance in high-school courses;

Nineteen complain that pupils are not taught how to study;

Fourteen mention the need of greater attention to agriculture or other manual and industrial subjects;

Four refer to the bad effects of athletics;

Seven think students are forced to study too many things;

Four object to the so-called practical subjects in the high school, such as agriculture, bookkeeping, and shopwork.

The following is selected as one of the best answers given to the question and also as one which seems to be typical of the feeling that exists among the most thoughtful members of the laity everywhere at the present time:

> The school does not attach enough importance to what the pupil is to do immediately on leaving his studies. My boy has received his college degrees, but unless he secures a position as a high-school teacher or as a college professor, a kind of work for which he has no desire, I do not know what in the world will become of him. He is a scholar but helpless as a child in going up against things as they actually are, and worst of all, he seems to have lost the pride in doing things with his hands which he had when he entered the high school. We must either keep our children out of the high school a portion of the time and teach them to do things, how to earn money as well as how to spend it, how to live among people today as well as how folks have lived and acted in the past, or else the schools should in some way meet this need, and why may not the schools do this double service for our children?

The laity is proud of our public-school system and greatly pleased with the trend of its development. Because of the high esteem in which teachers are held, and because of unlimited confidence in the judgment of educators in all matters pertaining to the school, the criticisms are expressed more in the form of desires than as actual adverse criticisms on the schools. The views of the laity are for this reason deserving of additional respect and consideration. It will be observed that the criticisms of these thoughtful, dependable people, even tho mildly expressed, touch upon basic principles and point out organic weaknesses well worth the educator's most careful thought.

There are two groups of educators, neither group very large, but each one trying desperately to bend the trend of public-school progress in its direction. One group, in pursuing its educational ideals, has forgotten that men are beings of flesh and blood to be housed, clothed, and fed. The other group sees little in life beyond earning a living and making money, and desires to cast overboard the languages and every other subject that does not contribute clearly and directly to strictly utilitarian ends. The laity views either of these extremes with equal alarm.

Aristotle says that virtue is a mean between two extremes. For example, he says wise economy is a virtue, but too little or too much economy produces the spendthrift or the miser, the worst of vices. On the same general principle, a very wise educational end or purpose, when pushed to the extreme of neglecting its important bearings and its inherent connections with other things, not only loses its real value but leads to unsound, unbalanced, and dangerous results.

The laity appreciates just as we all appreciate that there is little danger of either of the two extremes mentioned gaining permanent possession of the schools. It is not difficult to see that the great majority of thinking educators are centering on the safe and sane educational mean of educating for both culture and service, the most splendid progress having already been made by schools in many places in working out this double idea.

The laity is not unconscious, as these investigations show, of the use that many universities and colleges still persist in making of the high school. Young men and young women have a strong desire to continue their education, and their parents have a growing desire to give their children a college education. Both student and parent are anxious for an arrangement by which the student may be admitted to the college without having to go thru the ordeal of the entrance examinations. Superintendents and high-school teachers, and others interested in young people are also anxious that a connection be established that will enable graduates to enter college on their high-school diplomas. This desire is so strong that the college is permitted to form its entrance requirements into a course of study for the high school. However rational as entrance requirements, it does not necessarily follow that they shape themselves into an ideal high-school course of study.

Now, the laity feels that the bargain has turned out to be a bad one for the high school. In order to accommodate one out of five, or one out of ten, as the case may be, the interests of four out of five or nine out of ten have often been sacrificed.

In fairness to the college it must be made plain that leading professors in many colleges have already espoused the high-school cause. The state university of my own state does not permit any change in entrance requirements or in rules of accreditment without first gaining the consent and advice of the superintendents and principals of the state. Dr. Charles E. Bessey insists on the high schools giving students that training in botany which means most to them at their particular age, whether they remain in school or drop out. Then he makes that the foundation for his courses in botany in the university. He does not see why that cannot be done in every other high-school and college subject. A few other colleges are showing tendencies in this same direction. Those in charge of high schools as well as the laity welcome this insurgency on the part of colleges and college professors.

The colleges thruout the country, however, too often use the club of accreditment in getting control of the high school in all such matters as laboratory and library equipment, methods of teaching high-school subjects, courses of study, and qualifications of high-school teachers. It is strange how difficult it is for some of our excellent colleges to tear away from the academic serfdom of earlier days.

No one person has done more in emancipating the high school from college control than that city superintendent who recently refused to comply with the red tape and petty regulations prescribed for accreditment by the Association of Secondary Schools and Colleges of the North Central States. Thousands of people had been waiting for someone to speak, so when Superintendent Ella Flagg Young of the Chicago schools spoke, an

expression of approval and appreciation swept over the entire United States. Her action forced important changes in the rules.

It is just as absurd and unreasonable for the college to assume to dictate high-school courses as for the high-school to assume to dictate courses of study for the grades. The best things do not drop down from heaven. They grow up out of the earth. The helping hand may be extended from above, but growth must be upward and not downward. So, build the high school on the foundation of the grades. Let its mission be not only educating for culture but also training for service. Let it give a rational education for the masses. Then let the college build its courses on this high-school foundation. Let each year from the kindergarten on up thru college be built upon and grow out of the year next below, making every year contribute not only its full share of knowledge and of power, but also some preparation for service.

The members of the laity look upon education as something that ought to better one's condition. They consider that it is something that ought to make their labor more effective and more profitable. They firmly believe that it is something that will at the same time enable them to live fuller, richer, and happier lives, and they look upon an educational system as faulty which cannot accomplish this.

The school is the public's practical way of expressing its interest in the education and efficiency of its offspring. This gives to the school the highest purpose of all agencies and institutions established by society, a purpose almost equal to that of the home itself. It must be clearly understood that the public school does not belong to the college. It does not belong to the teacher. It does not belong to the church. It does not belong to the political parties. *It belongs to the people and it must be operated for the people in promoting the interests of their children.*

VALUE OF DEMONSTRATIVE METHODS IN THE AGRICULTURAL EDUCATION OF THE RURAL POPULATION

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The growing interest in the matter of agricultural education has doubtless led your program committee to assign a place on this general program for the consideration of the subject here announced.

The question of agricultural education is generally considered as merely a phase of the broader problem of industrial education as applied to the schools, whether it is a specialized school, or in the general public-school system as we know it today, but it is our belief that the benefits of this type of education should not be confined to the education of the youth alone. It is well within the province of the college and secondary school interested in the development of agriculture to carry the teachings of modern agri-

cultural science to the rank and file of those who support our entire economic structure. The schools, both secondary and higher, are unquestionably molding at a rapid rate the youth of our land, and the beneficial results of such training are becoming increasingly evident. But what of the millions who are struggling with the problems of impoverished fertility, of wasting diseases, of lack of knowledge regarding the essentials as to the proper care and handling of crops, conditions which are easily possible of improvement, but which are as yet too frequently neglected for lack of proper knowledge? Are these to be left alone in their struggle, while attention is directed solely to the youth of the land?

If these matters which should be taught our youth could be presented in such a way as to influence our present practice, the public school would develop a stronger hold on the community, as it would then to a greater degree enter more vitally into the life of that community.

The economic need of the hour is increased production, and we as a people are rapidly passing from the status of a creditor to that of a debtor nation. Rapidly increasing prices of our products, and the rapid increase of home demand have robbed us largely of our European markets, and unless our production is materially increased within the next decade, or even less, that time will see us importing our bread stuffs. As a nation we are practicing extensive rather than intensive, or even intelligent, farming, and as a result, our production is pitiably low.

President Brown of the New York Central Railroad has presented statistics which well show our comparative condition, for instance, with Germany. If we were to produce on our tillable areas crops of wheat, oats, corn, and barley today, equal to those produced on the soils of Germany, which are not nearly so rich on the average, it would amount to an increase in the value of our products that would approximate three and one-half billions of dollars—or more than one-third of our present total agricultural output. The low yields which this country shows exist in spite of the fact that new lands of virgin fertility have been constantly opened up for settlement. But the reckless single-crop system has reduced the original fertility of the Dakota wheat-fields from twenty-five to thirty bushels per acre, to eleven to fourteen bushels per acre. Last year America surrendered to Argentina our position as the leading meat-exporting nation of the world. With a soil that was once of surpassing richness, our farms now yield fourteen bushels of wheat per acre to thirty-two in Old England where the land has been cultivated for more than a thousand years. England, Germany, and the Netherlands produce from two to three times as many oats per acre as America, while the staple food supply, the potato, yields in these countries two hundred and fifty bushels per acre to our eighty-five or ninety. With the general application of well-recognized principles of improved agricultural practice, our products could easily be doubled. See what this would mean. On the basis of present conditions, it would be

practically equivalent to the discovery of a continent of arable land, equal to or larger than that now under cultivation.

Whether as a nation we heed the lesson to be learned before hunger pinches us, is a question. The remedy we know, if we will but apply it, and the application of it can only be made intelligently thru education.

The urgent necessity of the case already requires that the father of the child should again go to school, but if he goes, it must be to a different kind of school. It must be to a school of doing, rather than to a school of recitation, for hands cramped with toil cannot well adapt themselves to books and figures. The most feasible method of expression is the seeing with one's own eyes just how the thing should be done. This has led to the development, by our agricultural colleges, of demonstration work, which carries directly to the man on the soil the results which have been gained in the laboratory and experimental field.

The past few decades have witnessed an enormous advance in agricultural science. The federal experiment stations and the United States Department of Agriculture have worked out the science and applied the theoretical principles to practice, which, if followed by the rank and file, would immediately result in at least doubling, if not trebling, our present output, and yet this enormous mass of accumulated information at present largely lies fallow, because it has not been brought directly to the man on the farm with sufficient force to grip him with the conviction that forces immediate action. This opportunity is the field for agricultural extension, and as Commissioner Draper of New York has well said:

> The schools, from highest to lowest, should act in accord not only in training students and in scientific research, but in carrying knowledge to the very doors of the farmers. Evangelistic work in agriculture should go everywhere. Seed specials should be run over the railroads. The blood of the best farm animals should be distributed thruout the state. Object-lessons of special interest to both men and women should be carried in all directions. The applications should be especially adapted to every section, and the fullest attention should be given to the less favored rather than to the more favored counties of the state.

This is exactly what a number of the agricultural colleges are now doing, and also some of the secondary agricultural schools.

With us in Wisconsin this attempt to reach the actual farmers takes two modes of expression:

1. Actual demonstration work held during the summer on selected farms.
2. Extension courses held at university; also at county agricultural schools and elsewhere, giving by demonstration exercises and stereopticon lectures the results of the summer work.

A few salient examples of this work were then presented, using lantern slides to show the different phases of the work.

Corn.—By breeding and selection types of corn were perfected which were peculiarly applicable to Wisconsin conditions. Thru the medium of the Experiment Association, consisting of persons who have attended the various courses of the Agricultural College,

fifteen hundred corn centers and twelve hundred barley centers have been established for the propagation of pure-bred grains that have been developed at the college, sufficient quantity having been distributed for development of increase plots. During this last year over $300,000 worth of pure-bred seeds was disposed of by members of this association from this selected stock.

County demonstration farms.—On the farms associated with the state charitable and penal institutions, also the county-asylum farms, demonstration plots have been developed, in which tests of seed taken from surrounding farms are made under comparative conditions. Tests of new, improved, and varying kinds of crops are made. During the course of the summer a farmers' picnic is held at which speakers are furnished to present the results of the work and actual demonstration of improved methods thereby made.

Young people's corn contests.—Thru the aid of the county superintendents and secretaries of the county fairs, samples of improved corn and barley are distributed to school children, for them to grow and enter samples for comparative judging contest at the county fair in the fall. This year twenty thousand young people are engaged in this work, for which several thousand dollars in cash prizes and several educational scholarships in each county are given, which provide for the payment of the expenses of the winners to Madison in the winter to attend a special course given for young people. In this way the interest of the school youth, as well as their parents, is enlisted in this improvement work.

Improvement of animals.—Cow-testing associations, organized for the determination of the production of dairy animals and the consequent elimination of unprofitable cows, are fostered. Over thirty community breeding-centers have been established for the breeding of single types of animals, so as to make a community center for the development of these special dairy breeds.

Soils.—Several hundred co-operative fertilizer tests are in progress on soils where phosphate and ground limestone are furnished the farmer to compare the results of this soil-improvement process with the crop returns under ordinary conditions. The drainage service affords the owner of wet, swampy lands an opportunity to begin drainage improvement for which there is a large demand thruout the different portions of the state. Not only is it necessary to drain the swamp and muck lands, but even a large proportion of the clays of the state are too wet for a profitable cultivation without drainage.

Restriction of diseases of plants and animals.—This is forcibly shown thru the potato-spraying demonstrations which are held in the different potato districts of the state, the college furnishing the machinery and chemicals and showing how the spraying solutions are compounded, the farmer giving the labor necessary for the application of the spraying mixtures and digging the crop.

This same type of work is carried on in connection with the spraying of orchards for the control of the apple scab and codling moth.

Interest in the restriction of such animal diseases as bovine tuberculosis has been greatly increased by holding postmortem demonstrations on animals that have reacted to the tuberculin test. In such instances animals in an apparently healthy condition have been found to reveal an advanced stage of the disease, which could be readily recognized only upon postmortem examination, and the institution of this demonstration method has rapidly increased the amount of voluntary tuberculin-testing among the farmers of the state.

Weed eradication and control.—The distribution of weeds is frequently looked upon as a comparatively minor matter, and yet many farmers are paying a very heavy tax in the matter of the control and eradication of noxious weeds. Demonstrations made as to the influence of the iron-sulphate treatment on the eradication of mustard, dandelion, and such weeds have been very successful.

Extension courses.—During the winter extension courses are held. Thru the medium of lectures and demonstrations and practical tests farmers who attend these courses are

given the results of the summer's work, and thus the influence of these demonstration meetings is further extended. This work was begun five years ago by holding a ten-days' farmers' course at the Agricultural College, and it has increased rapidly in popularity until last year there were over fifteen hundred men and women present. This work has been still further extended by taking similar courses out to the different agricultural schools, and last year seven such courses were held, the attendance upon each of these ranging from three or four hundred up to nearly two thousand.

The work of these extension courses has been still further intensified by holding special schools of one week's duration in which definite and regular laboratory exercises are given on not more than two or three special phases of agriculture. An experimental school of this sort was held last year at which the subjects of milk-testing, tuberculin-testing, and seed-testing were taken up and mature farmers gave to the consideration of these topics the same degreee of care and attention as would be required of regular college students.

In these practical ways, aided by the farmers' institutes, which are held in all portions of the state and which are also under the immediate direction of the Agricultural College, the mature rural population of the state is brought in contact with the latest and best in agricultural practice.

PUBLIC HEALTH AND PUBLIC EDUCATION

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Probably no movement in education has made such rapid progress in forming public opinion, in defining its aims, and in achieving positive results as that which seeks to benefit the human race thru a ministry to its physical needs. When one considers the ideals now so largely current as to bodily growth and development, the searching criticisms of all conditions which operate against good health, and the insistent demand that schools, social agencies, and governmental power should be exerted in behalf of sanitation, pure food, and observance of the laws of hygiene, the showing thus made for the advocates of physical education is certainly creditable. It is now an accepted axiom that the failure of the individual to secure that physical development which makes for the highest efficiency in life, and the failure on the part of the race to show the same jealous care for its vigor and virility are to be accounted as crimes, either on the part of the person concerned, or of organized society, or of both. We have now attained to what may be called a public conscience in the matter of health.

An achievement in the cause of education for health has been the great extension of our knowledge, and the application of the discoveries of science in the advancement of physical vigor. More and more the aim of research is to discover the underlying causes for weakness and debility, and then to remove those causes. Prevention rather than cure is the maxim of the day. One might note illustrations: the warfare against tuberculosis, laws against impure food, quarantine in case of contagious disease, the relentless search for noxious germs, coupled with a like earnest quest for the proper means

wherewith to destroy them before entrance into the body, and, if they have attacked the individual, to render them comparatively harmless. And other instances of this desire to make much of disease that has ravaged mankind impossible may be found in the insistence upon proper conditions in the schoolroom, methods and courses of study adjusted to the needs and capacity of the child, and, more than all else, the recognition of a rightful place in any rational system of instruction for definite, direct teaching on the proper care of the body and proper respect for its functions.

Nor is this new movement to be attributed in the main to personal, selfish considerations. It grows in large measure out of the spirit of human solidarity; it is an expression of the altruism which is more and more becoming a dominant tone in the life of the day. There is a quicker and keener sympathy between man and man. Disease and suffering on the part of one's neighbor call forth a desire to rid the world of such shadows and such distress. There is, to be sure, a recognition growing out of this same sense of human solidarity that, if evil be tolerated in any portion of the world, then its effects are sure to be felt by all in some way, in some form, or at some time. The legislation which has grown out of this public opinion constitutes a remarkable body of statute-enactment—that which relates to the schools and their conduct is no small achievement in itself, and there is abundant evidence that the end is not yet. Soon we shall practically realize that which has been said by a firm believer in the securing of health thru proper instruction, that "the city or state that does not adequately care for the health of its children may well be considered as subject to a charge of criminal negligence."

Another motive for this widespread interest in better health is based upon a faith in humanity, a large hope, a buoyant optimism. No longer is it accepted as inevitable that mankind should suffer the scourge of pestilence and disease. Scientific knowledge has shown so many epidemics to be preventable that men are confidently looking forward to the time when typhoid fever, scarlet fever, diphtheria, and the white plague shall be no more. There is also a growing confidence that many bodily evils, heretofore accepted as inevitable results of heredity, may be counteracted by proper training, nutrition, and a wise attention to the vital forces granted the individual. The old doctrine of determinism is passing away before a conception of the plasticity of humanity, and the possibility of bringing to bear remedial agencies and of calling upon forces heretofore unsuspected in the physical nature of the child and the youth.

But the progress of education for public health is not free from hindrances and obstacles. The movement must overcome the inertia which clings to customs, usages, and existing modes of thought. The old order, to be sure, changes, but it changes slowly. Specific illustrations of this conservatism are easily found by one who studies the condition of many school buildings, and those buildings are by no means confined to country districts.

The routine of the school day is in too many places not such as to give a proper opportunity for the best development of the child's physical nature. We are still far from establishing a proper co-ordination between the material presented in instruction, the mode of teaching, the demands upon the child's mental power, with the order that nature prescribes as necessary to the highest development, not only of the mind, but of the other powers of the individual.

Again, laws are too often but laxly enforced. The individual in too many cases does not realize his duty to society in safeguarding its other members against the possibility of contagion, against neglect in his own household of the primal principles of health. Organized society tolerates in cities many conditions which do not make for physical growth, development, and vigor. Consequently, the betterment is sporadic instead of general. There is a comparatively slow advance in the practice of the teachings of science in regard to bodily health. Knowledge spreads but slowly, and only by iteration and reiteration are people impressed with the importance of the new gospel of health for all. Especially in a democracy, where there is no power to issue by edict the command, is progress necessarily dependent upon the slow education of public opinion, and upon the consequent readiness of all individuals to follow the law.

In education, with the best intents, much still remains to be done. We know as yet but in part. The importance of play is a comparatively new note in the discussion of teachers. In the practice of the schoolroom only within a few years has attention been called definitely to the opportunity offered at the intermission of the school on the athletic field, in the realm of games and sports, and on the gymnasium floor. The larger values of athletic training, of gymnasium work in the advancement of mental vigor, in the development of moral qualities and of social virtues, are now just gaining consideration. A great field for investigation in regard to the order and development of the mental powers as compared with the physiological growth is just being approached. Much still remains to be done in determining thru experiment the exercises adapted for different ages, and the differentiation between the sports and the gymnasium work set for boys and for girls. The field of adolescent physiology and psychology is one of vast extent in which only a few landmarks have as yet been erected. New conditions brought about by the increase of the factory system, the demand for workers not yet developed in body, the artificial conditions in the city—all these are demanding thoro and exhaustive study. How then is progress with some degree of rapidity and certainty to be assured?

First: We must seek for a better and more adequate organization of experience. Trial and experiment are widespread but as yet no effective means has been established of securing co-operation between workers. How slowly, with all our associations, conventions, institutes, periodicals, public addresses, does the knowledge of the good thing that has been

done, that is possible elsewhere, spread! One may find in cities adjoining each other, even in the same community, greatest extremes in the matter of regard for the good things of education, in school conditions, and in the surroundings which make for health of body.

Again, more effective methods of educating public opinion must be secured. It is unfortunately true that the school man and the investigator have not yet learned the art of publicity. Any merchant who followed the stereotyped, formal methods used by educators in their gatherings would fail utterly in calling the attention of the public to the goods which he wishes to sell. We may learn much from the terse, pithy, concise, and telling way in which the newspaper reporter puts his items in the columns of the press. It is of the utmost importance that in such a practical way the public should be informed of the methods and practices used in the schools in securing a knowledge of the laws of health.

Children constitute an invaluable medium for spreading knowledge that has been put before them so as to make a real and genuine appeal. One might warrant the statement that instruction on the use of improper ingredients in prepared foods, if put so that the children could bring it to their homes, would in two years make the business of preparing and placing such goods upon the markets a financial failure.

When once this knowledge of proper conditions for the health of the individual and the race has become a part of the warp and woof of human conviction, legislation will be ample in scope, comprehensive in the ground covered, and will be effectively enforced, because backed by dominant public opinion. There is also need for a fuller and wider knowledge. For this, we must look mainly to institutions devoted to research. There is ample reason for rejoicing in the growth, number, and effectiveness of such agencies. The time has also come when the general knowledge of the subject is such that those investigations may be directed along definite lines, toward results of positive value to mankind.

Out of all this, then, comes an imperative demand for the development of the local, state, national, and international agencies which make for the conservation of human life. A study of the expenditures of local and general government shows that far more is spent in meeting the evils of crime, poverty, and disease than is spent in aiding the agencies which work for the elimination of these foes of human society. It is not without reason that one hopes that in the near future the civilized state will spend five or six times the amount for conservation, for improvement, that it expends for remedies, and thus reverse the present program.

It is emphatically necessary that in the United States the hands of the Bureau of Education should be strengthened in its endeavors to establish a clearing-house whereby information bearing upon the best methods in promoting health shall become the common property of school men everywhere. One discovers in this movement for physical well-being a common current

wherein the representatives of all the manifold phases of education may meet. The laws of the human body are fixed and fundamental. The methods whereby children and youth are taught and trained to observe these laws must be essentially the same. As our scientific knowledge grows, then, we are going to have an increasing body of common practice followed by all schools, and thus establish a universal basis for public education in health.

Again, sufficient data are now at hand to make possible a quantitative measurement of the results of such teaching and training, both on the economic and on the social side. If it is found that attention to the physical conditions of the child diminishes the percentage of retardation, if contagious diseases are checked, if certain diseases are banished from mankind, if the length of human life is increased, if economic efficiency is multiplied, then these results will show a definite money value to society from better school methods. The social values are also easily determined. Men and women who are well are more congenial, co-operate more effectively, are happier, are more disposed to join in the common work of betterment of conditions in the state and the nation.

An efficient democracy demands that the leaders of education should give heed to this primal consideration of health as the basis for all effective work.

TRAINING FOR TEACHING

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It is fortunate for each new generation that the ability and the desire to teach seem to be natural to most human beings. As a matter of course parents teach their children, the housewife teaches her maids, the farmer his men, the factory foreman the hands, the business man his clerks, the preacher his congregation. As teaching is so natural an occupation for human beings and the need for it so great it seems a pity that any teaching-power should be allowed to go to waste. It is safe to say that it is being wasted in most of the cases where teachers are failing in schools. These men and women are probably not without teaching-power; they are merely trying in vain to use their power in the wrong place.

It is easy to declare that the person who does not make good in some teaching position lacks the "gift," and to advise her to try some other kind of work. It is much harder to acquaint oneself with her tastes, her temperament, her sympathies, in order to be able to direct her to the part of the teaching-field where the particular kind of service that she can render is needed. We whose duty and privilege it is to train teachers—and there are really none of us that have been long in the profession who are not directly or indirectly doing this work—we must bear in mind the necessity of conserving teaching-power. Some other kinds of power or ability may

become useless on account of changes in the industrial or social world, but while generation succeeds generation, and while life grows more and more complex, it is inconceivable that the need for teaching-power will grow less. Besides letting it flow along the ways of least resistance which custom has established, we must send it thru channels of our digging that it may carry refreshment, health, vigor, life itself, to the arid regions of the earth.

Sometimes when we are laboring with a young woman, trying one plan after another in our effort to fit her for teaching, onlookers suppose that our only concern is to put her in the way of earning a living at a genteel calling for which apparently she was not intended by nature. But they are mistaken. Our chief concern is for the young people at our doors or may-hap in some remote corner of the world who are hungering for the food that perhaps this person better than any other can give, and we dare not declare her unfit for this mission until we have tested her to the uttermost.

To help teachers-in-training to direct their powers we must extend their study beyond the general problems of education. Their work will be to assist in adjusting pupils to their environment, but the task of adjustment will vary with the individuals to be adjusted. For instance, the child of kindergarten age lives and should live in a different world from that inhabited by the boy or girl in the elementary school; the pupils of the secondary school have entered upon another stage of living, the students in college upon still another. The teacher who undertakes to lead any one of these classes of young people into their spiritual inheritance must know the peculiar nature of the individuals whose guide he hopes to be. There may be some teachers whose services would be equally valuable in a kindergarten and in a college, but they are certainly not common. I have in mind a teacher whose failure in an elementary school was of the most dismal kind. Experience made her even less successful than in the beginning, and she came to feel that her case was hopeless. At length a vacancy occurred in the teaching-staff of a secondary school for girls. It was remembered that this unsuccessful elementary-school teacher had on many occasions manifested a practical interest in the life-problems of young women, and she was invited to fill the vacancy. Then the miracle happened. From the very first moment she was a success. The minds and hearts of her students were to her an open book; the world of young womanhood was as familiar as the world of childhood had been strange. Hundreds of her former students, now teachers themselves, testify that she did more than any other one person to inspire and guide them. When, after many years of service, she passed away, it was found that the character of the work she had been doing was well expressed by the sculptured figures of the Alice Freeman Palmer memorial at Wellesley College—a woman of heroic build with outstretched arm and hand unwavering, showing to the slim young girl graduate who goes forth with lamp and book, the path she must follow, but with head bent that

the smooth young brow may feel the teacher's last warm touch of love and tenderness.

What a waste of power there would have been had this woman been told after her failure in the elementary school that she did not possess the teaching "gift"! And what gain there might have been if, while she was receiving her preliminary training to teach, she had been encouraged to specialize for immediate service in secondary school or college.

Within a somewhat narrow field the opportunity for deliberate choice is wisely provided in some training schools that offer kindergarten courses in addition to courses fitting for service in the elementary school proper. Here all students have met equal entrance requirements and all pursue the same course for the first semester. But during this half-year they observe the two kinds of work being done in the model school, they are encouraged to seek the advice of their teachers with regard to their choice of course, they are themselves observed and studied by these teachers to the end that they may be assisted to make a wise selection. It seldom happens that students who choose one course so deliberately have cause to regret later that they did not select the other.

To teachers engaged in schools in any grade from kindergarten to college, opportunity for specialization is offered by the sex of the pupils. There are teachers who succeed equally well whether their pupils are boys or girls, but there are many who are clearly fitted to teach pupils of one sex rather than the other, and there are some who fail with both because they lack sufficient knowledge of boy and girl nature, and because they are not aware that the possession of such knowledge is absolutely essential. When, for instance, a certain young teacher took charge of her first class she discovered that she had never made any special study of boys. She learned her lesson eventually, but at the expense of too much of her own vitality and of the children's time. This extract quoted exactly from her diary will show how the struggle began:

May 13. My first day as a teacher. Children remarkably good.

May 14. Children again good. My predecessor has them well trained. I doubt my ability to keep them there.

(Blank pages)

June 2. The blank pages represent the most painful fortnight I ever knew—a time of unremitting, furious struggle—of being crushed between the knowledge of the impossibility of ruling the boys, and, on the other hand, the knowledge of the impossibility of giving up.

September 3. I especially need practice in fierceness. I am going to be fierce right along now. I was fierce today, but not enough. The boys were good, but *I know them.*

Friday, September 6. I've done fairly well this week, but next week I'm going to make those children afraid of my glance. I must be a perfect tigress. The other teachers say that I have all the notorious boys in the division. Next week it shall be my first firm, fixed purpose to inspire fear. If I can't do it, I am no good as a teacher. I wish I was more fluent in abuse.

Because a teacher has sufficient personality and force of character to

keep boys quietly and good-naturedly industrious in a classroom is no proof that he understands boy-nature well enough to be the best guide for a boy at any particular age. "Little Hartopp," overhearing the uncomplimentary remarks of Stalky and Company as they mimicked him and their other schoolmasters, showed his fitness for his task when he said, "It isn't brutality—it is boy, only boy." If the schoolmaster and the schoolmistress are only half-way tolerable, the majority of boys will submit themselves to their authority in the classroom and will take on the intellectual veneer that the school gives, but all the while they will live their real lives among themselves, acquire knowledge which has no relation to the prescribed course of study, and form habits too strong to be broken by any force that may come later into their lives.

Boys are likely to ignore you if you do not manifest your fitness to be received into their inner circle, but girls will, in general, take it for granted that their elders are in sympathy with them, and to most women teachers they will, upon the slightest encouragement, show the treasures of their world. The pity of it is that so often a teacher does not know how to act in this wonder-world to which she has been introduced thus trustingly by its inhabitants. If boys have suffered because of lack of sympathy resulting from lack of knowledge on the part of their teachers, what shall be said of girls? There are teachers in schools whose call to teach girls is as clear as was Mary Lyon's, but there are others who, having shown a decided lack of ability to keep order in a boys' classroom, chiefly for that reason have been termed girls' teachers, and have been permitted to take charge of classes of girls. Because on account of their gentle manners, their limited physical strength, their lack of the habit of combination, girls seldom outlaw, seldom resist authority in school, these so-called girls' teachers stay with them year after year, giving them the husks of schoolroom knowledge but failing to give them the food their natures crave. Because girls do not live together in their own world as much as boys do, it should not be left to this world of theirs to develop powers that should make for the uplift of the home and the state. A woman noted for her success as a boys' teacher was asked how the girls in her class responded to certain stimuli, and she answered, "I cannot tell, I never notice them." I sometimes wonder whether it would not pay us well to notice our American girls a little more, since the girl is mother to the woman. It is not enough to say that intellect has no sex, that since the industrial, the commercial, and the professional world are opening their doors to women, girls should be trained in company with boys and as boys are trained. No matter what opportunity may be offered to women to shape the life of society in general, including the economic and political life, the fact will remain that men and women have different ways of thinking and feeling and that they were just as different when they were boys and girls. I am not maintaining that boys and girls should be in different

schools or classes. I am asking only for a differentiation between the training of boys and girls whether they are educated together or separately, this differentiation to be brought about thru their teachers' understanding of the difference between their natures.

Rural and urban schools offer the teacher another opportunity for specialization. Too often country children and youth are put in charge of teachers whose chief aim is to fit them for the industrial or commercial life of the city to the neglect of the rich possibilities offered by their present environment. The teacher who selects the rural school for his field must study not alone the characteristic ideas and habits of his country pupils, he must study the community which he is called to serve, must recognize the importance of the part it plays or should play in the life of the nation.

A teacher whose field is any portion of a great city system of public schools, especially when the city is a port like New York, receiving its thousands of immigrants every year, needs the preparatory training of the foreign missionary. He should know something of the language, the history, the occupations, the social condition of the people whose children he is to teach. It is not enough to resolve that these children of aliens—alien in language, in thought, in feeling, in habits, in aspirations—shall be made to conform to the American type. What is the American type? Is it fixed? Is it desirable that it should be? May it not be that it is destined to become something finer than we have known, and that a study of these different classes of strangers so soon to become an integral part of the American people may lead to a determination to aid them in realizing their ideal instead of trying to supplant these ideals by others less suited to them and less valuable to the nation as a whole?

As one community after another makes a place in its public schools for physically, mentally, and morally defective children, there arises a need for teachers specially trained to care for the blind, the deaf, the feeble-minded, and the incorrigible. There must be knowledge, of course, plenty of it, possessed by the teachers of so-called special classes, but there must be something else that transcends knowledge. Who can define this essential thing? The spirit of self-sacrifice that always responds to the call of misfortune may send the good shepherd out into the cold and darkness to seek the lamb lost among the hills, but what is it that sharpens the shepherd's ear so that above the noise of the storm he clearly distinguishes the faint appeal of loneliness and helplessness?

A certain young woman was considered a hopeless case by those who were attempting to train her for teaching. Slow to learn, apathetic, apparently resentful of criticism no matter how tactfully it was offered, she seemed to lack every quality of mind and heart that a teacher should possess. One day a volunteer was called for to give temporary assistance to a teacher of mentally defective children. This young woman was the first to offer her services. She had not been with the children half an hour be-

fore their teacher said, "This is the best assistant I have ever had. She understands my children, and they turn to her for help as naturally as they come to me. It is rare to find a person so well qualified by nature for this kind of work." The young woman resumed her study of the science of education with interest and enthusiasm. At last she had a strong motive for overcoming the difficulties that stood in the way of her obtaining a license to teach. What a corps of learned professors could not do for her had been accomplished by a handful of feeble-minded children.

Within the limits of this paper it would be impossible to point out all the kinds of service for which teachers need special training. The instances given may be sufficient, however, to show the necessity for such training and also to show that there is a field for the employment of a great variety of natural aptitudes. When all the richness of opportunity is revealed to enthusiastic young students of education whose interests in their kind as yet know no limits, they are likely to feel like Bottom in the play, who wanted to act all the parts.

The teacher may select his specialty early, and this choice may even provide him with a motive for adopting teaching as his profession, but until he has studied education as it applies to the whole nature of an individual in the successive stages of development, and to the race in all periods of its history, he is not prepared to specialize at all either in theory or in practice. Certain studies have come to be regarded as a necessary part of a course for the professional training of teachers—psychology, the history and principles of education, and methods of teaching. Less generally accepted, but, it seems to me, no less essential, are logic and ethics. In time it may become customary to offer the teacher-in-training a brief survey of the more important phases of philosophical and scientific thought in order to render clear to him the great historical phases of education in connection with the thought-movements to which they are due.

Where or how shall the teacher receive the general and the special training which we maintain are essential? In a university? In a normal or training school? From self-directed reading and observation? From experience? The ideal plan would seem to be that by which, before independent practice is begun, complete preparation should be made in an institution offering courses to teachers-in-training for service of many kinds. By this plan a mutual understanding would be established among the workers in all parts of the educational field and many barriers would be broken down.

While would-be teachers continue to be as different from one another as are the members of any other class of human beings, even the best plan for preparatory training will not altogether do away with the costly teaching of experience. In a certain training school for teachers three young women listened to convincing lectures on the evils attending corporal punishment in schools, and each resolved to avoid the use of the rod. When

they became teachers, tho they were in the beginning equally unskilful in class management, one of them quickly learned to control her class thru the application of certain principles of teaching which she kept before her mind. The second needed the discipline of experience, but fortunately received her lesson in time to prevent any appreciable waste. She tells her own story as follows:

On the first day of my teaching one of my sixty-six boys, seeing his coat in the hands of a monitor at the back of the room, decided to make a dash for it. Instantly my hand was on his collar, and he made no dash, but he said that I had hurt his leg. Thoroly frightened, I sent for the principal to attend the injured boy, take away my license, and discharge me. She came, but she did none of these things. Instead she first made the boy draw down his stocking and show the leg which (thank the Lord) was unmarked and whole; then she sent him home with the firm belief that I not only had not hurt him, but had saved him from a serious accident. But when the door was closed behind him, she gave me a strong initiative of a habit which is mine to this day—that is, when teaching, if excitement or anger comes, to get my hands behind me, and the greater the excitement or anger, the tighter to hold them there.

The third young woman, like the second, had to be taught by experience, but her lesson involved more waste. She says:

The idea of ruling by fear speedily arose and dominated me. Corporal punishment was recommended to me by my fellow-teachers, and the time came when in desperation I tried it. I do not know that it injured the child. It made me ill. Fortunately I was shortly afterward transferred to another school where law-breaking was not winked at. Here, with the assistance and encouragement from my superiors in command, the training-school ideal of ruling thru interest revived. I put forth extreme efforts to make my lessons interesting. My daily program was constantly novel. The strain was great, but I did rule thru interest. However, the time came when I did not need to perform prodigies of ingenuity to keep the children good, and of late I have perceived that the secret of a contented, orderly class is the conscious feeling of growing power in the children.

The essential thing in preparing a person for teaching is *to make him believe* that he needs broad professional and intensive specialized training for his work. This belief, whether it be slow or swift in coming, is for every possessor a lamp to the feet. This belief "touched with emotion" accounts for the method and the secret of all the great teachers the world has known.

There may have been much for experience to teach, but nevertheless the essential thing was accomplished, the lighted lamp was firmly grasped by the student who could write at the end of her preparatory training course:

When I came to the Training School heartbroken because I could not go to college, I thought of school teaching as petty drudgery unworthy of ambition. I thought that in joining the teachers' ranks I parted from all hope of honor or high achievement. I learned in the Training School that teaching is a great art, with a great history and a great mission; that to join the teachers' ranks is to join a mighty army of earth's noblest—past, present, and future; and that to fill worthily the least place in those ranks is itself high achievement and honor.

Another young woman was for only two weeks a student in a training school for teachers, being compelled at the end of that time to accept a

position in an elementary school. But in those two weeks she had a vision of all that is meant by the word "teacher," and she set herself deliberately to deserve the title. Reading, observation, experiment, conferences with associates, were some of the means employed. The waste, when there was any, was of the teacher's own vitality and never of the children's powers. The struggle was hard, but the task "in hours of insight willed" was at last accomplished, and then an appreciative board of education singled her out from scores of able men and women trained in professional schools and universities and appointed her to help supervise the work of the largest public-school system in this country.

It is not necessary to say to you who have listened to this simple address that no attempt has been made to treat fully or systematically the subject assigned. I have been making a single plea—that, in training for teaching, the individuality of the student be respected. We make it our study to give the pupils in the lower schools an opportunity to develop their native powers and to fit themselves for that particular kind of service to society which they can perform most efficiently and cheerfully. Let us treat the would-be teacher in the same way, remembering that the field of education is about as broad and diversified as society itself, and that it can furnish work and the highest kind of satisfaction to almost everyone that will prepare for it with sufficient intelligence, courage, and conscience.

THE EDUCATION OF WOMEN FOR HOME-MAKING

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It is very fitting that North Carolina should have one of her representatives to speak on education of women for home-making, because down there we so highly regard things domestic, that, as you learned at the Stadium on Monday, we even went so far as to elect as our governor the man Mr. Kitchin.

There are two words in the English language that it is absolutely impossible to dissociate, "woman" and "home." Consider one and you are inevitably led to think of the other. Home is the oldest and greatest human institution; it was a woman's hand that first formed it. During all the gradual evolution from the glimmering dawn of antiquity to the modern day, it is about *her* that it has grown and developed. The home is the unit of nation-building. Whatever exalteth woman exalteth the nation. The position of any nation in the scale of civilization can be accurately judged by the enlightenment of its women. Since the home, with woman as its center, is the bedrock of our whole social fabric, can there be any education more important than the education of women for home-making?

In order to get a comprehensive view of woman's accomplishments, and therefore a just estimate of her educational needs, let us go back to the

beginning of things and review briefly the progress of woman's educational evolution.

Long centuries ago, in the dim and shadowy past known as the Dark Ages, man fought the wild beasts and from his conquest of them provided food for the family. The woman did all else, skinning and preparing the flesh for cooking, roasting it over fire of her own make, tanning the skins and shaping them into garments, grinding the grain and making it into bread, and bearing and guarding the children. In this unequal partnership, man followed the chase while to woman's lot fell the ceaseless grind of unending drudgery that in her early years reduced her to a hopeless, haggard menial. This is also a true picture of woman in the home life of the aboriginal inhabitants of our own land.

From classic lore we learn that the nations of antiquity, particularly the Greeks and Romans, occupied very high positions as regards literature and art. From this one might assume that their education was of a high standard and that women received their due share of training and culture. From the literature of the Greeks and the present-day remains of their houses we learn that home and family life, as we now understand it, was almost unknown to them. Their dwellings were within walled cities and were of one story with stone floors. The absence of any provision for family life is very evident. The two principal divisions are the courts for men and women. It is said that the Greek woman was not expected to leave her home more than once a year and never appeared at dinner with her husband and family if a guest were present.

The Roman women enjoyed greater freedom than their Greek sisters, but they had practically no education except what they acquired by observation from their brothers and husbands.

From sacred history we learn that the Hebrew women received religious instruction. They were not, however, permitted to learn at first hand from the great religious teachers as do the women of today, but must get their knowledge of it at home from the men of their households. They were encouraged in all domestic duties, tho untrained in them except as instruction was handed down from mother to daughter. Thousands of them came into the world and passed away again and the world was no better for their having been here. The woman of today desires to make the world a good place.

Coming down thru the mediæval times there was a slow unconscious development of woman's personality like the slumbering growth of the butterfly within the confining walls of the dormant chrysalis. As the Renaissance, the golden age of literature, was preceded by the literary barrenness of the Dark Ages, so the modern development of women's education was preceded by a long brooding period of mental quiescence.

This brings us down to a generation or two ago, to the time of our mothers and grandmothers. In their days there were no schools of domestic

science, but each well-regulated home was a school in itself where the daughters of the family were taught the useful arts of housekeeping. The occupations and duties of the home were then much more numerous than those of the modern household, for each home was a little world in itself where were performed many of the operations now relegated to the shop or factory. Our mothers and grandmothers had of necessity to be their own bakers and pastry-cooks, and every good bread-maker was known and revered in the community. They carded wool and flax and spun them into fabrics which they later shaped into garments for the various members of the household. Carpets they made, and blankets, and even the designs that ornamented them. In the learning of these useful duties the artistic side was not neglected, for mothers prided themselves on the beauty and elaborateness of their daughters' samplers, quilts, and wax flowers.

In those good old days housekeeping and home-making were the sole employment of women and domestic accomplishments were at a premium. The manners of some of our modern women who pride themselves on saying, "I never cooked a meal in my life," or "I don't do up fruit in summer; it's just as cheap to buy, besides it is a lot of trouble," would have been held in high disdain by our grandmothers.

But the good old colonial days have passed, nor would we recall them, for the busy striving world of today has brought to women opportunities broader and grander than our mothers ever dreamed of. The factory with its economy of material and energy has taken from the home the burden of production where the only motive power was woman's energy. Manufacturing at such expense was the consuming of gold to smelt iron. Under the changed economic conditions of today the labor of spinning and weaving, of tailoring and dressmaking, of brewing and curing has almost entirely passed from the home to the shop and factory. Relieved of the drudgery of uneconomic production, woman has now time for the development of herself and the proper rearing of her family. She has been relieved of a trade and in place of it she has been given a profession.

This modern age is remarkable for many wonderful discoveries, not the least of which is woman's discovery of herself. What is known as the age of science is also the age of woman; not, we hope, of the so-called new woman with her fads and fancies, her mannish ways, her aggressive manners, boldly asserting her so-called rights and demanding the franchise, but the real woman with the trained brain and heart and hand, the maker of the home and the helper and inspiration of mankind.

How may we best fit ourselves for this vastly important position? By education, training.

Just how early the education of the girl for home-making may begin is hard to say. The line which divides the muscular actions that are the result of nervous stimuli and those motions which are the result of intelligence is indefinite indeed. True it is, nevertheless, that a certain amount

of knowledge and memory are awakened at a very early age. The babe in arms is influenced by color, light and shadow, and the tone of voice. If a lively tune is played on the piano, the babe laughs; a loud, noisy ragtime, and it grows fretful and nervous; a soft lullaby, and it is lulled to quietness and slumber.

Did you say that babies are thinkless things,
With no other light than what instinct brings,
With brains as downy as butterflies' wings
And heads as empty as a bell that swings
When muscular motion is moving the strings?
Did you say that babies are thinkless things?
Then when does the think begin to grow?
And when does the mind begin to show?

Since the child has memory and intelligence it is possible for a certain amount of education to begin. By this, I do not mean the would-be education which is evidenced by the repressive command with the usually appended threat or punishment. It is, "No, baby, not touch," or "No, no, not drop spoon, Mamma slap hands, Mamma spank." Instead of being trained to development, the child is trained to repression. By the time a child is a year old it should have learned many things that will stand it in good stead, things which unlearned at that age will mean trouble later. By that time it should have acquired the art of self-entertainment, personal regularity of habit, and acquaintance with the law of obedience. Of course as yet that must be obedience to higher authority and not obedience to a sense of right and wrong. Such knowledge comes later.

Between the first and second years the memory of the child becomes astonishingly developed. There is related of Helen Keller a very interesting example of the early development of memory. She became deaf and dumb in her nineteenth month. As is known, she hears music by placing her hands lightly on the piano and receiving the vibration. Her mother obtained two songs that Helen had heard sung when she was an infant in Alabama but that she had not heard since. The minute they were played she clapped her hands and said, "Father carrying baby up and down, swinging her on his knee. Black Crow, Black Crow!" Black Crow was a third song her father had sung. It is wonderful what early impressions the plastic mind of a very young child can receive. In its tenderest years it may have absorbed the beautiful impression of a well-ordered home, presided over by a loving and intelligent mother, or an impression of confusion, bare walls, and irritable tones. The nurse, kind and cheerful in the presence of superiors but cross and neglectful when away from them, may cause the child to use similar methods with those who later come under its power.

While sitting one day on my verandah I noticed children playing house during recess-period at a school across the street. A number of them sat on a low fence while the would-be mother stood in front of them. Her idea of parental bliss seemed to be to thrash and scold her family to her

heart's content. After a while it became the turn of another little girl to be the mother. For a moment she looked smilingly at her charges, then quietly said, "Mary, it's time for you to practice on the piano. Flora, you take little Sara for a walk," all the time wrapping her up to the point of suffocation. Then she took on her lap the infant, really a girl as big as herself, and began to sing her to sleep. If the mothers of those two children had been there to look with seeing eyes they would have learned a lesson well worth their while.

The little girl child loves the things of the household; whether it be attributed to instinct—hereditary memory—or what not, the child certainly loves these things. Watch the little girl as she plays with her first doll and sings the lullaby to it, in fancy putting it to sleep. Watch her as she makes her first playhouse, the deft use of the broom, the washing of doll clothes in miniature tubs over tiny washboards, the familiarity with the use of the little flat-iron and cook-stove. This is mother instinct, the house-making in miniature, and the mother can crush these impulses or she can guide and direct them, cherish and encourage them. As Mrs. Ellen Richards said the other day, "Put your play into useful work." The little girl says, "Mamma, let me help wash the cups and saucers"; the mother says, "No, you're too little, you run along and play," and she does run along and play and finds her own employment and finds her own happiness. Her mind is diverted. Too late the mother sees she has lost her most precious opportunity, that of fostering the natural instinct toward housekeeping while the child's mind was still a clear page ready for her to write upon and while the child was exclusively her own and not the world's. Suddenly she wakes up to the realization that her daughter is grown, and she says, "Come here, you great big girl, and help your mother." She does not want to come in; her interests are, by training, elsewhere. The time has passed when there was pleasure in learning these things.

Oh, you say, the child must have exercise and freedom and fresh air. Dudley A. Sargent said a couple of days ago, "The child should swing and leap, run and play, swim and box to develop muscles." Is there any less development in running upstairs for mother, sweeping off the porch with her little broom, wiping the dishes, or making beds? Whether, of course, this work is made play or not, must depend on the attitude of the mother. As for being in the free air, it is time that we made the inside more free from germs rather than less free than the great world of outdoors. I do not mean that I would give her no play as we know it today. I would; but her work-play, or help-play, would be a necessary part of each day.

In the school training of future home-makers I would begin with the little folks in the primary grades. A large percentage of the children who enter public school never go beyond it except into the world's stern school of experience. If they do not get in their brief school life some of the rudimentary principles of home-knowledge, they seldom get them at all. For-

tunately, during the early school age young children are very apt at learning domestic science, especially if they are allowed to do things.

They take the greatest delight in the active duties of the household. One of the most interesting sights I ever saw was a cooking-class of little girls, every one standing on a soap-box so that she could reach the top of the table built for older people. The big pink, blue, and white bows on their heads, the dimpled arms, and tiny hands were incongruous with the earnest faces and pursed lips as they gravely stirred the contents of big bowls. These little girls could tell a great many useful things about proteids, starches, and food-materials generally. By such instruction the wise mother and the helpful teacher first place the little girlish feet on the definite path toward home-making. Children are at this age interested in elementary science. If anyone doubts it, try Ritchie's *Primer of Sanitation* on any little daughter and see if she ever pursued you as much to read to her any fairy story. Such books will array them against flies, mosquitoes, dusty corners, and closed windows as no later training ever could. It is not necessary to wait for the child to grow up before giving her a certain amount of technical training. Also, could there be a more auspicious time for inculcating in the minds of these children the fact that they were learning that which will be useful to them when they become home-makers?

Nor would I, because the girl has had training in home knowledge in the primary schools, consider it superfluous in the high school, college, or university any more than I would discontinue a man's training for business because he had begun it in the grades.

The practical question now arises, how are we to incorporate such instruction in the already overloaded curriculum? With what is it overloaded? For one woman who remembers her trigonometry or German there are five hundred who are compelled to remember and use all their training in home-knowledge. Those who have never had occasion to consider the subject of home economics are apt to think of it as so much cooking and sewing. It is not that any more than cabinet-making is cutting a mortice, or civil engineering running a line.

I shall not enter into a discussion of the details of the school training, but the course, simplified or elaborated according to circumstances, which has proven most successful is:

1. Physiology (the knowledge of the body).
2. Personal hygiene (care of the body).
3. Public hygiene (that great study of what the world has done and is doing for public health).
4. Bacteriology (the knowledge of micro-organisms in relation to food, health, and disease).
5. Cooking (the preparation of healthful and nourishing food).
6. Dietetics (the study of food materials).
7. Chemistry (as applied to the things of the household).

8. Sewing, millinery, and textiles.
9. Child study.
10. Home nursing.

It is impossible to estimate what even a part of this training would mean to the farm home.

The study of these subjects has been too long neglected, especially in our exclusively women's schools. We have behaved as tho we seemed to think such knowledge would be poured out upon us in time of need from heaven above. The proud young father will say, "Why, dear, you take as good care of our baby as if you had studied them all your life." Does she, when from one-fourth to one-half of all that come into the world die the first year?

When a man is yet a boy, he begins thinking of his vocation. Having chosen it, he selects his college. Upon the completion of his course he is fairly well equipped to fulfill the duties of his calling. On the other hand, what of the girl? What is she to make of herself? It is seldom that the girl, beyond her 'teens, even on her wedding day, will acknowledge the possibility of her marrying. Why should she be ashamed of it? Is there anything more noble? The vocation of every woman is marriage. She may not adopt it, but that, as Kipling says, "is another story." A woman may study elocution or philosophy, medicine or music, but she will, with it all, wake up some fine morning and find herself in some man's kitchen, and woe be unto her if she has not the knowledge with which to cook his breakfast.

At the marriage altar a man does much more than put the ring on a girl's finger and with all his worldly goods her endow. He gives into her hands that which is of more value than the gold that any merchant ever gave to a banker for safe-keeping: his health, his digestion, his success, his happiness.

The day comes in the life of almost every woman, when the duties of motherhood press heavily upon her and it might be asked, "Is there any training that will help her then? Since no two children can be the same in temperament, would she not need individual training for each particular child?" Not necessarily. In dealing with the faults of the children, whether it be with selfishness, untruthfulness, temper, or what not, the remedy is largely in the attitude of the parent rather than with the child. The impulse of the mother is apt to be to use compulsion rather than patience.

The clothes of the child are, according to the trend of the parent's mind, simple or elaborate, whether they be made in the style of today or a hundred years ago. The ailments and their treatment in children require good common-sense and a knowledge of how to follow the doctor's advice. The management of the home will be largely dependent on her knowledge of household system, hygiene, bacteriology, and food.

Childish fingers weave into the very fiber of a woman's being much of love and sympathy and wisdom, but not knowledge. It reminds one of the oft-told story of the *good* mother and the *wise* one. Wisdom does not make knowledge, however great an adjunct it may be to it. A man may desire to be a successful occupant of the chair of theology. He may have great wisdom and good judgment, but to *do* it he must have the training. Can or should any less be expected of the mother who puts the stamp of her knowledge on her children where it shows in health of body and strength of brain, character, and all that makes for perfection?

When all is said and done, it is the attitude, the principles of the parents that mold the child. Just as an architect plans no two houses alike, but does nevertheless apply to each house, whether bungalow or castle, those principles and theories which he learned in his training for the work, so will woman deal with no two problems alike, but will nevertheless apply the same fundamental laws.

The studied deference to the father's opinion, the consideration that will not allow the family to depart to mountain or seashore, leaving the bread-winner to a summer of empty home and boarding-house meals, the honor that is as apparent in the privacy of the home as when company is present, the Christian love and charity that are evident in small things as well as in large ones—these are the real, if unconscious, education by which the child is taught to be, in her turn, a home-maker.

The problems of the mother are unlike with each child, but so do they vary with the same child in different ages. A tired mother quoted to me: "When one's children are little, they walk on one's feet, but when they are grown up they walk on her heart." "Yes," I said, "but is your happiness, your pride, also proportionately great?" She thought a minute and with a smile said, "Infinitely greater."

The wife is mother, nurse, seamstress, cook, housekeeper, chamber-maid, laundress, dairy-maid, scrubwoman, confidant, playmate, teacher, and social arbiter, all in one. She may not perform all these duties herself, but she says who shall do them and how they shall be done. The few are trained to this duty; the many, we hope, will be.

The world at large realizes the need, as is shown by mothers' congresses, fresh-air funds, child-relief campaigns, and pleas for a national Department of Health. Only the schools and the government are slow to recognize it. In Bible times it was the father on whom all this responsibility for the children rested. Somehow, somewhere, I do not know when, this responsibility became shifted to the shoulders of the mother, things became turned around. This reminds one of the little boy whose father said, "You at the head of the class, Johnnie? Why, I thought you were at the foot." "I was, paw," he said, "but teacher turned the class around." All this talk would make one think and hold the opinion of the little boy who was asked what

part of speech "girl" was. He said, "She ain't no part of speech, she's the hull blame thing." One would think she was the hinge to the door of the universe, and she is.

I thought so when I read in a magazine the other day that "there are today few occupations a young man can take up without fear of a woman's taking the bread out of his mouth. There are prize fighting, ladies' tailoring, and domestic service." It went on urging men to prepare themselves as cooks, butlers, etc.

Many girls find it necessary to look upon school as but a path to the business world. Others, of more ample means, regard it only as leading to society and marriage. To anyone, however, may come the day in which it will be necessary for her to earn her living. Under the changed social and economic conditions of modern life a great many occupations have opened up for woman's activities that have lain fallow from the foundation of the world.

In the business and financial world the typewriter and telephone are two great dynamic forces, both of which are almost entirely in the hands of the woman worker. In the teaching profession all the kindergarten training is given by women, practically all the primary teachers are girls, and in high schools and colleges a growing percentage of instruction is given by female teachers. The triumphs of modern surgery in saving and prolonging life would be abortive but for the healing touch of the woman nurse. How often has her ready wit and skillful hand held back the destroying angel! What myriads have passed into the great beyond before her coming!

A good general education is fundamental, practically essential, to success in any profession, nor is the profession of home-making an exception to the rule. Our girls, like our boys, should have just as good literary and scientific education as we are able to give them, for this is the master key that unlocks the portals to avenues of opportunity. We must always have a care, in our desire to specialize, that we do not forget this foundation knowledge.

Woman has not thrust herself into the work-a-day world; she has been called there and business has been benefited by her coming. The number of girls who go into commercial life to gratify selfish whims, for excitement, pleasure, or fine clothes, are few and far between. The heart of woman is ever true to home; she leaves it only thru necessity and the call of love will always bring her back. Education for business does not in any way unfit a girl for home-making. Would that every married woman had the knowledge of affairs to be a help and counselor for her husband. The same knowledge of business would leave fewer helpless widows and dependent children.

Probably, however, there is no one training which prepares her for more varied occupations, and occupations in which she does not compete with man, than does that of home economics. The graduate in home eco-

nomics may teach cooking, sewing, bacteriology, chemistry, and any of its various branches. She may have supervision of the food and sanitation of institutions such as hospitals, asylums, mercantile establishments, cotton mills, and homes of correction. They are more and more recognizing the need of such supervision. An ever-widening field is that of social extension in the great factories or business corporations. The duty is to study and guide the girls in moral standards, dress, literature, entertainment, and health. The Woman's Branch of the Farmers' Institute today reaches thousands of farmers' wives far back in the country. It is an institution that could not have existed ten years ago because there were then so few trained workers. The missionary, whether in slum or foreign field, is effective as she never was before because, instead of having only zeal and sympathy, she is now equipped with a knowledge of her powers and limitations, a cool head, a calm outlook, and a well-directed enthusiasm born of her knowledge of the fundamentals.

I know one girl who is a food-chemist, another a water-analyst, another a flour-tester, and so on, almost without end. Women are starting laundries, violet farms, dairy, chicken, and bee farms, rest-rooms, tea-rooms, darning and patching establishments for worthy bachelors.

All these occupations are not the direct outcome of home training. They do, however, utilize the combination of trained brain and hand. A friend, one evening, urged that the trained hand was not necessary. Next morning at breakfast time I said, "How did you burn your hand?" "I was taking muffins out of the oven. I am not much accustomed to cooking," she explained. "Ah, then," I said, "you do acknowledge that it is well to have a trained hand, that the trained mind was not sufficient!"

After all, education does not consist of the number of facts stored away in the chinks of the brain. It is the power to systematize, to correlate, to apply those facts. It is the point of view, the outlook on life, the mental attitude. If we have found in household economics that form of education which gives the trained faculties as well as the stored-up facts of home-knowledge, then we have reached the ideal form of education, the one suited to this day and age in which we live. I was struck with the inscription on your public library. "The Commonwealth requires the education of the people as the safeguard of order and liberty." What we are all working for is not this or that training, or supremacy of this or that sex or type of people. We want the condition best for all.

My recommendation would be to educate our girls for *living* and *doing*. Modern life has less and less place for the unskilled and the non-producer. Our girls, like our boys, should be taught to do things. They should not, of course, be taught to do the same things, except in their elementary-school work, for as woman's work and life differ from man's life and activities, so must her later activities differ from his. That looks as tho I did not approve of coeducation. I do most heartily approve of coeducation.

One of the greatest defects of the schools of a generation ago was that they sought to teach the so-called cultural subjects and to turn out ladies and gentlemen. Nowadays there is no place for dilettantes and triflers and the world is knocking on the doors of our schools asking for men and women. There is no less call today for the lady and gentleman, but these, like the poets, are born, not made. They are the product of the home and not of the school. Culture, that is, true culture, is more needed today than ever in the past; but it is not the culture of a little Latin and less Greek, or a little music and less painting, that marks and labels off the lady and gentleman from the great productive mass of mankind, but the culture of the trained mind and the skilled hand that does not selfishly segregate itself from the general mass of humanity, but enters into the struggle and leads and helps and directs. Culture can be as readily and surely acquired from a lesson in cooking or textiles as from one in music, languages, or art.

In recommending practical education for women, I wish it to be well understood that I have no quarrel whatever with what are commonly known in women's colleges as cultural subjects. Let us have all the culture possible, the more the better, but let it be the culture that makes women useful to society and not a parasite upon it. As Roosevelt said in his Paris speech, "Let us never become so refined and so highly educated that either the man or the woman will be unfitted to do the rough, useful work of life." Let culture go hand in hand with utility and helpfulness. Let us have all the purely cultural subjects for which the girl has time, but let them be accessories to the useful subjects rather than substitutes for them. The woman does not exist who would give up her music, art, languages (until she does so by a slow process after marriage) or whose life is not brightened by her beautiful gowns, well-arranged coiffure, or an ability to grace a reception line; but again, I say, let these things be *accessories*.

The educated woman of the future should be so trained in girlhood and young womanhood that when the responsibilities of life come upon her, she will be found thoroly competent; indecision and vacuity will have no place in her. She will have a fundamental knowledge of foods and how to prepare them, and since she is not a mere drudge, her kitchen will be a laboratory so equipped with labor-saving devices and modern conveniences that the viands coming from it will be the products of dexterity, chemical knowledge, and art. Sickness and disease will be foes to be fought and never again visitations from the Lord.

Hand in hand she will stand with her husband. The finances of the household will be as carefully computed as are those in her husband's store or factory. When the call of public welfare comes she will be ready, whether it be for pure milk, a national Department of Health, schools, or art. Then might it be said, "The heart of her husband doth safely trust in her," and —it might truly be added—his head also.

THE VALUE DURING EDUCATION OF THE LIFE-CAREER MOTIVE

CHARLES W. ELIOT, PRESIDENT EMERITUS OF HARVARD UNIVERSITY
CAMBRIDGE, MASS.

The teaching profession nowadays fully recognizes the fact that only those processes of education are successful which procure the active interest and co-operation of the minds and wills subjected to them. During early school life the intelligent teacher tries in every way to rouse and maintain the interest of the pupil in the subjects of study, and endeavors to select studies for the individual pupil which are likely to hold his interest. For many children this animating and selective task on the part of the teacher is a difficult one; and for the great majority of American children of from twelve to sixteen years of age the schools fail to perform it. Hence, multitudes of American children, taking no interest in their school work, or seeing no connection between their studies and the means of later earning a good livelihood, drop out of school far too early of their own accord, or at least offer no effective resistance to the desire of unwise parents that they stop study and go to work. Moreover, from lack of interest they acquire while in school a listless way of working. Again, interest in their studies is not universal among that small proportion of American children who go on into a secondary school; and in every college a perceptible proportion of the students exhibit a languid interest, or no interest, in their studies, and therefore bring little to pass during the very precious years of college life.

There are, however, certain regions in the total field of American education in which the internal motive of interest in the work comes into full play, with the most admirable results. In general, professional students in the United States exhibit keen interest in their studies, work hard, advance rapidly, and avail themselves of their opportunities to gain knowledge and skill to the utmost limit of their strength and capacity, no matter whether the profession for which they are preparing be divinity, law, medicine, architecture, engineering, forestry, teaching, business, or corporation service. In secondary education the high schools of commerce and mechanic arts have a decided advantage as regards motive power within the pupil over the ordinary high schools. The industrial schools, trade schools, continuation schools, evening and summer schools, business colleges, and Y. M. C. A. classes in secular subjects show a large proportion of strongly interested pupils. The part-time schools which some of the great corporations, like the General Electric Company, the New York Central Railroad, the Grand Trunk Railway, the Ludlow Manufacturing Associates, the Yale and Town Manufacturing Company, and the International Harvester Company have been conducting for a few years past have no difficulty in interesting their pupils in those academic subjects which make part of their general shop instruction. When one goes thru the shops and schoolrooms of

Hampton Institute, where hundreds of negroes and scores of Indians are under instruction, or thru the working-rooms of the Tuskegee Institute, thronged with negroes of all shades, one is struck with the eager application to the work in hand which is exhibited by the students. One sees no loafing or inattention, or uninterested work. Everyone, whether bright or dull, seems to be doing his best, and to be doing it with hearty good will. What is the motive power in the mind and will of the pupil or student in all these various successful educational institutions? It is the motive of the life career.

A professional student has chosen his life-career. A pupil in a commercial high school or a mechanic-arts high school has made a primary decision with regard to his life career; he has determined the first direction of his preparatory work, altho later he may come to branchings of the way where a new decision will be needed. The apprentice in a railroad shop or an electric works has in like manner decided on one kind of a life-career, and is bent on pursuing it to advantage. The journeyman who has chosen one of the fundamental trades enlists in a public or endowed evening school or a Y. M. C. A. class with the purpose of improving himself in his trade or art, and believes that good work in the school will increase his earning capacity. The negro or Indian student at Hampton sees clearly that the studies and labors of the place will make him a better farmer, or a carpenter, mason, or wheelwright with good earning capacity; and he has decided to fit himself as well as he possibly can for some one of these gainful occupations. The apprenticeship method in education, tho slow and liable to great abuses, produced for many centuries highly skilled workmen, who acquired all the accumulated skill of preceding generations and transmitted it with additions to the next. When, under the factory system, apprenticeship almost disappeared, it turned out that a successful method of education on a large scale had been well-nigh lost. Its success was due to the continuous play of the motive of the life-career. The intelligent leaders of American industries are now trying to recover the apprenticeship system with the modifications made necessary by the factory system. The students in a university summer school, a business college, or a technical school are, as a rule, persons who have chosen their calling, and believe that by taking appropriate additional instruction they can further themselves in that calling.

Of the pupils or students in all these educational institutions which give full play to the motive of the life-career, from the lowest industrial evening school to the highest professional school, that delightful thing can be said which Mr. Shrigley, President of the Williamson Free School of Mechanical Trades near Philadelphia, said in 1908 about trade schools:

> The young men who are being trained in a properly conducted school of that type show great interest in their work, and are so enthusiastically devoted to it that their progress is wonderfully rapid and gratifying.

Indeed, on account of this enthusiasm and rapid progress among the students or pupils of such institutions, earnest teachers always enjoy working in them, and teachers who work both in schools where the life-career motive is recognized, and in those schools where it is not, invariably find the first sort of school more interesting and inspiring than the second.

We ought not to be surprised that schools which avail themselves of this strong motive get the best work from their pupils, and therefore do the best work for the community. All of us adults do our best work in the world under the impulsion of the life-career motive. Indeed, the hope and purpose of improving quality, or quantity, or both in our daily work, with the incidental improvement of the livelihood, form the strongest inducements we adults have for steady, productive labor; and the results of labors so motived are not necessarily mercenary, or in any way unworthy of an intelligent and humane person. There is nothing low or mean about these motives, and they lead on the people who are swayed by them to greater serviceableness and greater happiness—to greater serviceableness, because the power and scope of individual productiveness are thereby increased—to greater happiness, because achievement will become more frequent and more considerable, and to old and young alike happiness in work comes thru achievement.

We come here upon the ancient controversy between pure and applied science, cultural and technical subjects in education, idealism and utilitarianism, and on the old distinction between living and earning a living. The immense increase in knowledge during the past hundred years, and the innumerable new applications of knowledge for the benefit of mankind ought long ago to have persuaded us that a greatly enlarged definition of culture and of the cultivated man was indispensable. We also need to discard forever the notion that there is something vulgar or degraded about the useful and the serviceable. After all is said to the discredit of "bread and butter" motives, it is no moral or philosophical objection to a discovery or a field of knowledge that it has useful applications. Even in the realms of the beautiful, fitness for some human use enhances or contributes to beauty, or is an important element in it. A ripening field of grass or grain billowing in the summer wind is not less beautiful because it promises welcome food for man or beast. The apple blossoms are not less beautiful because apples will later be developed from them. The root of landscape beauty is adaptation to the delight and service of man. The useful invention of a Tungsten filament for an electric lamp is no less worthy or dignified than the apparently useless discovery attributed to Thales, that a piece of amber rubbed with a bit of silk would attract a light body delicately suspended by a fine thread. Moreover, the mental capacity involved in the invention of the Tungsten filament is, to say the least, just as strong as the capacity which Thales exhibited in his amber experiment. The student who masters the Tungsten-filament facts in their connection is just as

worthily occupied as the student who makes himself acquainted with the exploit of Thales, altho the observation on amber was innocent of applications to human welfare for two thousand years. Again, there is nothing inherently selfish or low-minded about hard mental work done in order to improve one's chances of earning a good livelihood, whether in overalls or apron, or in street clothes. Indeed, the earning of a good livelihood, whether by man or woman, is, as a rule, an altruistic performance in high degree—at least after twenty-five years of age, and often before that limit. The conception that useless knowledge is purer and loftier than useful belongs with the feudal system and with that conception of religion which makes it to consist largely of ceremonial, detaches it from ordinary human life, and regards it as in great part an other-world interest. American society has pretty well got over the feudal idea that a gentleman can have no other occupation than that of the soldier, the priest, or the landowner, and is beginning to understand that religion is primarily a matter of loving serviceableness in this world. It is high time that our teachers and leaders of the people understood that every civilized human being gets the larger part of his life-training in the occupation thru which he earns his livelihood, and that his schooling in youth should invariably be directed to prepare him in the best way for the best permanent occupation of which he is capable. In other words, the motive of the life-career should be brought into play as early and fully as possible.

It is obvious, however, that the early recognition and selection of the best life-work for every child is a difficult matter. Let us next consider, therefore, first, the natural helps in performing this great function of the home and the school, and secondly, the precautions which can be taken in indeterminate cases. There are numerous cases in which an occupation is naturally transmitted from parents to children, or from one generation in a broad sense to another. Thus, in an agricultural region, or in a town of one industry or two or three industries, it is altogether probable that large groups of children will follow the occupations of their parents. Again, among the children in a given school there will always be a fair proportion whose natural gifts and tendencies become obvious to the observant teacher who watches them for years. Such children should be turned toward appropriate occupations by the teacher in consultation with the parents. There will also be a small proportion of children who know their own minds by the time they are fourteen years old. They too should be helped to the life-work which attracts them. Finally, in every community and every school there will be a considerable number of children who can be fairly prepared for any one of several occupations, tho not, perhaps, for the highest success in any one. To some one of these sets or classes the great majority of children in any community will be found to belong.

It is wise, if family circumstances permit, to postpone the actual training for a specific trade or occupation till at least the sixteenth year, because in

most cases the body is not sufficiently developed before that age to undertake the real work of a trade. Most boys are not fitted for apprenticeship or a trade school until they are sixteen, and in general seventeen is a better age at which to begin. Children who must leave school at fourteen because of home conditions should be required to attend continuation schools or part-time schools; but to this end new legislation and the co-operation of mercantile establishments are necessary.

If, then, the motive of the life-career cannot be brought into full play before sixteen years of age, what precautions ought to be taken to maintain the interest of pupils in school studies up to that time, and to give them a training which will not only increase their mental power and their capacity for rational enjoyment, but also their earning capacity in a variety of occupations? In the first place, instruction in every subject taught at school should be accompanied to the utmost extent possible by concrete illustration and fresh, current exemplification. Real shop problems should be used to illustrate the theoretical principles of geometry, mechanics, chemistry, and physics. This sort of illustration is available not only in mathematics and elementary science, but also in languages, literature, and history. Secondly, much attention—much more than is now given—should be paid in every elementary and secondary school to the training of the eye, ear, and hand, for the reason, among others, that well-trained powers of sight, hearing, and touch are of high value in any life-occupation. Thirdly, the elements of the arts applicable in ordinary households and in various trades or callings ought to be carefully taught in all schools, public, endowed, or private, such as drawing and designing, domestic science and art, and home economics, carpentry, and joinery, and, in rural communities, agriculture. Rural schools have an advantage here over urban schools, because agriculture has become such an admirable subject of school instruction since successful farming came to involve acquaintance with plant-breeding, animal-breeding, and a variety of crops, animals, manures, motors, and machines. For children between the ages of twelve and sixteen it is particularly important to provide various forms of training which they can see will be of use to them in after-life. The provision of well-graded courses of that nature, with constant concrete illustration of every mental process or problem, will go far to hold the interest of the children in their school work, and prevent premature withdrawals, or diminish the number of them.

The next question is—and it is a grave one—who is going to guide the inexperienced child to a wise preliminary choice of the life-career? The answer must be—the parents and the teacher, but mainly the teacher. The parents and the teacher together ought to be easily able, in the first place, to give the right direction to that small proportion of children whose education clearly ought to be prolonged thru the secondary school and the college because of good parts or favorable circumstances, and to that other small proportion whose natural bent is strong. These two sorts of children,

however, together make but a small minority; the great majority show no decided bent, and seem about equally fit for any one of several callings, so that some authority must make a tentative sorting and an experimental assignment. Moreover, since the circumstances of the parents unfortunately determine for a large proportion of all children an early discontinuance of systematic education, the selective function of the teacher will at the best have serious limitations. Democratic society has as yet found no remedy for this undesirable abridgment of school life. The profession of teaching must recognize this fact and cope with it, so far as possible. At present we are permitting the great majority of American children to go out into the world as unskilled laborers, without having chosen any trade or other occupation requiring skill, and without having felt in their school work the motive of the life-career. This is an evil which is not to be cured by additional legislation merely. It must be cured by serious modifications of the programs of American elementary and secondary schools, by the acceptance on the part of teachers and school authorities of the function of guiding children into appropriate life-work, and by providing new kinds of instruction and new organizations like continuation schools and trade schools. When Benjamin Franklin's father thought it was time for the boy to choose a trade, he took Benjamin about the town and showed him men at work in all the trades then practiced in Boston, and it was only after this comparative survey that Benjamin decided to be a printer. A very skillful printer he became by the time he was eighteen years old. American schools should perform this office for all pupils who ask for such guidance.

If this guiding and selecting function for the public schools looks difficult, we may get encouragement from the fact that it is by no means untried in the wide world of education. Germany, France, Switzerland, and Belgium can all show this thing actually done. Do you say, "True, but those countries are not so free industrially and socially as ours is. Their institutions, or their industrial conditions, or their family habits give them means of directing children into trades which we do not possess." It is well that we do not possess any means of compulsion; for success and happiness in life depend on the individual's following a congenial calling. It is highly inexpedient, as well as unjust, to force any child or youth into a trade which does not attract him, for in it he will be both inefficient and unhappy.

Many interesting experiments in this direction are already started in different parts of the United States, and most educational authorities are taking a keen, tho sometimes uninstructed, interest in the general problem of vocational training. It will doubtless occur to many minds that an early choice of a trade or occupation may turn out to be an unwise one. Such mistakes, if soon discovered, will not be very serious under American industrial and social conditions, which are more mobile than those which prevail

in Europe, so that an early mistaken choice of the calling can be more easily rectified here than it can be in the old countries. Moreover, a good training for any one trade will always contain many elements which are applicable in another trade; and if the motive of the life-career has been in good play, the animated mental and manual work done by the pupil will have been in some fair measure profitable toward the ultimate career.

When all available means have been used to discover the best vocation for each child and to direct him to it, there will remain in the mass of children who are approaching the end of their school life numerous indeterminate cases which afford no clue to the best calling—at least at the age at which choice urgently needs to be made. What policy should a well-organized school system follow in regard to such children? The first thing to be done is to keep such children interested in their school studies as long as possible, in the hope of preventing them from going to work as unskilled and immature wage-earners. To maintain interest it will be expedient to offer in the school a considerable variety of studies, so that each child may have a chance to pursue the studies he most affects, whether chiefly manual, or chiefly mental, whether bookwork or shopwork. This involves a school program stated in different groups, or offering options. A program of this sort will provide the best security a school system can furnish for a wise ultimate choice of a calling, for it will enable the undetermined pupil to select the studies to him most congenial. When at a later date he discovers and adopts the trade or occupation for which he is best adapted, it will turn out that by selecting the most congenial studies he will have prepared himself for the congenial trade or calling, because the same natural tendencies which directed him to the selected studies will direct him safely to the ultimate calling. A single uniform course of study prescribed to all offers no such security for pupils who cannot determine their trade or calling at fourteen, fifteen, sixteen, or seventeen years of age. This principle has already been thoroly worked out with students of college age. Those who do not yet recognize their best calling in life should choose under a free elective system the studies they severally most affect, because those studies will in all probability prove later to have been the appropriate preparation for the calling, when discovered, in which each can best succeed. Both in school and college diversity, not uniformity of product, should be the aim. The fortunate pupil or student is he who early discerns his life-career, and makes his school training or his school and college training an appropriate preparation for it. The vocation once known gives clear guidance to those knowledges and skills which will best contribute to success in it.

Whoever advocates the introduction of concrete illustration and the elements of industrial training into the common schools will at once encounter three objections: (1) there is no time for more subjects; (2) the present amount of instruction in the so-called academic subjects is already inadequate and ought not to be reduced; and (3) instruction in applied

science and industrial subjects is costly, and there is no money to pay for it. To meet the first objection, the best way is to increase school time per day and per year. This would now be possible with due regard for the health and vigor of the children; because many of the new subjects call for bodily exercises, and also because improvements already effected in school grounds and buildings make the hours spent in school quite as healthy as those spent at home, healthier indeed under many urban conditions. An extension of school time from twenty-five hours a week to from thirty-three to forty-four hours a week, according to the age of the pupils, would make great improvements possible. In cities and large towns the summer vacation should be much reduced. This lengthening of the weekly school time has already begun in day schools which make much of manual training and industrial teachings, and the vacation schools, summer camps, and summer sessions are making head against the evils of the long vacation. In connection with the increased interest in all school work resulting from the admission of the life-career motive, the increase of school time will meet completely the second of the above objections. There will be no need to reduce the academic or cultural elements of the present high-school programs. It will be possible to give the essentials of the common high-school course and also much manual and industrial instruction. This is not prophecy, but merely the recognition of existing facts. Finally, the third objection—no money—must be met by getting more money, public and private, to spend on schools. Some unobservant and unimaginative people say that it is impossible to increase public expenditure whether for schools or for any other object. The answer to that pessimism is that public expenditure for schools and for many other objects has been greatly increased within the past thirty years, and that almost all citizens hold that school expenditure ought to be increased even tho the total expenditures of the community should not rise, because, if judiciously made, it yields a larger and quicker return—material, mental, and moral—than any other expenditure.

Thruout the discussion of the expediency of introducing vocational subjects into American schools, it is important that one fact be kept clearly in mind, namely, that to provide more subjects of instruction does not mean that each individual pupil is necessarily to study more subjects. Thus, the city of Munich provides instruction in some sixty trades, but the individual Munich boy or girl learns only one trade. So American schools for children of twelve years and upward must teach many subjects, but each pupil will pursue only that number of subjects which is expedient for him.

To the question where it is most important to introduce industrial training, and to give the motive of the life-career the freest play possible, will not the answer of our profession be well-nigh unanimous—in the public-school system, from the seventh grade to the twelfth grade inclusive? Many other organizations and instrumentalities will share in the good work,

but the free public-school system should be the chief field of this great reform. The ample and discriminating report recently published by this Association's Committee on the Place of Industries in Public Education exhibits the immense confusion of nomenclature, opinions, plans, and efforts which clouds the subject of industrial education, but out of this confusion emerges one unifying and integrating conception—that of the supreme value of the life-career motive in the lifelong process of education. On being installed as rector of the University of Edinburgh in 1866, Carlyle told the students what "a man is born to, in all epochs. He is born to expend every particle of strength that God Almighty has given him, in doing the work he finds he is fit for; to stand up to it to the last breath of life, and to do his best."

DEPARTMENT OF SUPERINTENDENCE

INDIANAPOLIS MEETING, MARCH 1–3, 1910

SECRETARY'S MINUTES

FIRST DAY

MORNING SESSION—TUESDAY, MARCH 1, 1910

The Department of Superintendence of the National Education Association met in the Assembly Room of the Claypool Hotel, Indianapolis, Ind., at 9:30 A.M., President Stratton D. Brooks, superintendent of schools, Boston, Mass., presiding.

After a few introductory remarks President Brooks declared the meeting ready to proceed with the following program:

Topic: Children Differ in Mental Alertness

1. Retardation: What Constitutes Retardation? How Significant Are Retardation Statistics? When Is Retardation Justifiable? How May It Be Corrected?—Leonard P. Ayres, secretary of Russell Sage Foundation, New York City.
2. What Consideration Should Be Given to Gifted Pupils?—James H. Van Sickle, superintendent of schools, Baltimore, Md.
3. What Consideration Should Be Given to Subnormal Pupils?—Maximilian P. E. Groszmann, Plainfield, N.J.

General Discussion—Leaders: Lightner Witmer, director of the Psychological Laboratory and Clinic, University of Pennsylvania, Philadelphia, Pa.; F. B. Dyer, superintendent of schools, Cincinnati, Ohio.

COMMITTEE ON RESOLUTIONS

At the close of the morning session President Brooks appointed a committee on resolutions consisting of the following named persons:

Ben Blewett, superintendent of schools, St. Louis, Mo.
Charles E. Chadsey, superintendent of schools, Denver, Colo.
Charles H. Keyes, supervisor of schools, South District, Hartford, Conn.
E. H. Mark, superintendent of schools, Louisville, Ky.

COMMITTEE ON NOMINATIONS

A committee on nominations was also appointed consisting of:

Z. X. Snyder, president of State Normal School, Greeley, Colo.
S. L. Heeter, superintendent of schools, St. Paul, Minn.
J. Stanley Brown, superintendent of schools, Joliet, Ill.
Charles J. Baxter, state superintendent of public instruction, Trenton, N.J.
F. B. Dyer, superintendent of schools, Cincinnati, Ohio.

Mr. Milton Fairchild, of Baltimore, Md., special instructor of the Moral Education Board, was introduced and allowed ten minutes to explain plans which have been formulated for moral instruction by means of stereopticon lessons. He spoke as follows:

During the past thirteen years serious efforts have been made to devise a satisfactory method of teaching morals in American public schools. Something like $50,000 worth of work has been done with results that are satisfactory to a large circle of prominent educators. I have devoted my entire time since 1897 to the problem with a definite purpose of inventing, if possible, a method of instruction that would hold the interest of boys and girls and influence them in their daily lives, and yet be suitable for American public-school conditions. In this effort I have had the assistance of a large circle of educational leaders and now appear before you under the sanction of the Moral Education Board, which has a membership of 150 distributed over the entire United States.

Our plan of moral instruction is as follows:

1. Photographs of things that actually happen in real life are taken especially for moral instruction.

2. Lantern slides from these, 50 to 100 for each lesson, are projected on a screen and thus enlarged to life size before large audiences of pupils in the school assembly halls.

3. Carefully prepared instruction as to what is right and fine in conduct is given as an explanation of the photographs while the pupils are studying them upon the screen.

It has been generally recognized both in the home and in the school that what is called "incidental instruction" carries real influence. The trouble has always been that there has been no possibility of controlling such instruction. The "incident" will often happen when instruction is inappropriate, or will not happen at all, and nothing like thoro instruction has ever been possible along these lines. It seemed to us if these episodes in real life, which ought to be the basis for moral instruction, could be photographed and lantern slides made from them, so that when the pictures were thrown on the screen life-size the boys and girls would be willing, and perhaps anxious, to discuss them from the standpoint of morals; and that "Illustrated Lessons in Morals" could thus be prepared, which would be under the control of the teacher, and which it would be possible to utilize for thoro instruction in morals—the most important topic in education.

Along these lines extended experiments have been made. A special camera taking thirty pictures a minute was invented, and fully six years have been spent in gathering an extensive collection of photographs especially for moral instruction. Several illustrated lessons have been made up, and delivered over a territory including twenty different states to aggregate audiences numbering over 100,000 boys and girls in public and private schools. The interest is real, and often intense. The presentation of the real things of life which involve morals makes it seem natural to the pupils that the morals involved in the pictures should be discussed. Large audiences of 600, and sometimes 2,000, have listened to these illustrated lessons with intense interest for an hour. The discussion among the pupils themselves following the delivery of the lesson on "The True Sportsman," for example, has been prolonged for days, and sometimes weeks, in a perfectly natural way and with permanent results on the moral convictions of the school.

The lessons which are at present available for general use thruout the entire United States have the following titles:

1. High School Lessons: "The Gentleman"; "Personal and National Thrift"; "The True Sportsman."

2. Upper Grammar School: "What I Am Going to Do When I Am Grown Up."

3. Lower Grammar School: "What Men Think about Boys' Fights."

The preparation of an "Illustrated Lesson in Morals" involves about $10,000 in advance expense. The photographs are difficult to get, because the photographer must happen to be on hand when the incident worth while for moral instruction happens to come off. A psychological chart is first made covering the topic. Then the photographs illustrating the ideas to be taught are selected and the text very carefully written, to insure the argument taking firm hold of the minds of the grade of boys and girls before whom the lesson is intended to be used. The pictures and texts are then printed and sent to members of the Moral Education Board for criticism and suggestion. After thoro revision the lesson is printed in its final form and, together with its accompanying lantern slides, is sent out by express as there may be demand for it. The natural interest of the pictures, and the direct, simple character of the text, make it possible for a local teacher with some ability as a lecturer to make an effective delivery of the lesson.

This interesting formal instruction in morals is given in assembly halls to large audiences, and is then supplemented by personal discussion and instruction by the various teachers to their own classes. The plan is to take such a lesson as "What I'm Going to Do When I'm Grown Up" and give it in rapid succession in all grammar schools of a city, provoking interest in the entire body of grammar-school pupils and affording general opportunity for discussion by the teachers simultaneously. It is possible in this way to exert powerful influence over the moral convictions of boys and girls themselves.

Mr. Bernard N. Baker, of Baltimore, is furnishing a fund of $10,000 on which this system of moral instruction can be fully tried out in America. He is giving his personal attention to the business organization, and planning for the incorporation of the Moral Education Board as an educational institution. The schools are to pay a small rental fee to sustain headquarters, but part of the expense is to be borne from the endowment fund. The address is, Moral Education Board, 903 Calvert Bld., Baltimore, Md.

Mr. Fairchild then invited the superintendents interested to visit his exhibit, and called attention to a historical sketch written by Walter H. Page, which appeared in March, 1910, issue of *World's Work*.

AFTERNOON SESSION

At 2 P.M., President Brooks called the meeting to order and the following program was presented:

Topic: Children Differ in Moral Responsibility

1. The Variable Factors in Moral Responsibility.—P. W. Horn, superintendent of schools, Houston, Tex.

2. Discipline as Affected by Differences in Moral Responsibility.—Walter F. Lewis, superintendent of schools, Port Huron, Mich.

3. Methods of Reducing Moral Truths to Practice.—Horace H. Cummings, general superintendent L.D.S. Schools, Salt Lake City, Utah.

4. A Richer Moral Ideal.—P. P. Claxton, professor of education, University of Tennessee, Knoxville, Tenn.

In Memoriam, William Torrey Harris.—George P. Brown, editor, *School and Home Education*, Bloomington, Ill. (Read by John W. Cook, with introduction by Mr. Cook.) C. P. Cary, state superintendent of public instruction, Madison, Wis. Elmer Ellsworth Brown, United States Commissioner of Education, Washington, D.C.

EVENING SESSION

The evening session was called to order at 7:45 o'clock, President Brooks presiding.

Hon. Albert J. Beveridge, United States Senator for Indiana, delivered an address on "The School and the Nation." Following the address of Senator Beveridge a reception was tendered to the visiting members by the Board of School Commissioners, and the superintendent and teachers of the public schools of Indianapolis at the John Herron Art Institute.

SECOND DAY

MORNING SESSION—WEDNESDAY, MARCH 2

The meeting was called to order by President Brooks at 9:30 A.M. The following program was presented:

Topic: Children Differ in Mental Attitudes, Tastes, and Tendencies

1. Dangers and Advantages of Specialization Prior to the High School Age.—W. E. Striplin, superintendent of schools, Gadsden, Ala.

2. The Effects of Electives upon the Future Welfare of Secondary Education.—J. Stanley Brown, principal of Township High School, Joliet, Ill.

3. Do Present College-Entrance Requirements Sufficiently Recognize the Different Tastes and Tendencies of Pupils?—A. Ross Hill, president of the University of Missouri, Columbia, Mo.

General Discussion—Leaders: A. H. Yoder, superintendent of schools, Tacoma, Wash.; J. George Becht, principal of State Normal School, Clarion, Pa.; W. A. Godward, superintendent of schools, Devil's Lake, N.Dak.

The annual business meeting followed the program.

Invitations to hold the meeting of the Department for the year 1911 were received from Chattanooga, Tenn., Dallas, Tex., Richmond, Va., St. Louis, Mo., Mobile, Ala., and Chicago, Ill.

The following resolution was offered by President John W. Cook of DeKalb, Illinois:

Resolved, (1) That the action of this Department with respect to its location for 1911 shall be advisory only, and subject to the approval of the officers of the Department, including the General Secretary of the National Education Association; (2) That no action respecting the location of this Department for the year 1911 shall be regarded as even advisory by the officers of the Department unless supported by a majority of those voting, and if three or more cities shall be voted for in any ballot the city receiving the smallest vote shall be dropped on the succeeding ballot.

The motion was duly seconded and adopted.

After two ballots were taken, Mobile received 371 votes, a majority of the votes cast. Superintendent Ella Flagg Young, of Chicago, moved to make the vote for Mobile unanimous. This motion prevailed.

President Brooks called for the report of the Committee on Nominations and President

Z. X. Snyder of the State Normal School of Colorado, chairman of the committee, submitted the following nominations:

For *President*, W. M. Davidson, superintendent of schools, Omaha, Nebr.
For *First Vice-President*, J. A. Shawan, superintendent of schools, Columbus, Ohio.
For *Second Vice-President*, C. G. Schulz, state superintendent of public instruction, St. Paul. Minn.
For *Secretary*, Arthur D. Call, supervising principal of schools, Hartford, Conn.

The report was unanimously adopted and the nominees declared elected.

The session then adjourned.

AFTERNOON SESSION—2:30 P.M.

ROUND-TABLE CONFERENCES

The afternoon was devoted to the respective round-table conferences with programs as follows:

(A) ROUND TABLE OF STATE AND COUNTY SUPERINTENDENTS

Leader—T. H. Harris, state superintendent of public education for Louisiana, Baton Rouge, La.

Topic: The Country Child

1. The Necessary One-Room School: (*a*) When necessary; (*b*) What it should do; (*c*) How do it.— H. A. Gass, state superintendent of public instruction, Jefferson City, Mo.
2. Consolidated Schools: (*a*) Advantages; (*b*) Obstacles; (*c*) How obtained.—Robert J. Aley, state superintendent of public instruction, Indianapolis, Ind.; Robert Lee Jones, state superintendent of public instruction, Nashville, Tenn.
3. Industrial Education in the (*a*) Consolidated school; kind and scope; (*b*) One-room school; kind and scope.—C. E. Byrd, superintendent of schools, Caddo Parish, Shreveport, La.
4. Teachers for Country Schools: (*a*) Kind wanted; (*b*) How to secure them.—L. J. Alleman, state institute conductor, Baton Rouge, La.

(B) ROUND TABLE OF SUPERINTENDENTS OF LARGER CITIES

Leader—Mrs. Ella Flagg Young, superintendent of schools, Chicago, Ill.

Topic: History and Art as Requisites in Making the Curriculum for Industrial Education

1. The Importance of History in Industrial Education.—James H. Robinson, professor of history, Columbia University, New York City. Discussion led by Wm. H. Maxwell, superintendent of schools, New York City.
2. The Study of Art as a Requisite in Industrial Education.—Walter Sargent, supervisor of Art and Manual Training departments, School of Education, University of Chicago, Chicago, Ill. Discussion led by Ben Blewett, superintendent of instruction in public schools, St. Louis, Mo.

(C) ROUND TABLE OF SUPERINTENDENTS OF SMALLER CITIES

Leader—W. J. McKone, superintendent of schools, Albion, Mich.

1. The Purpose and Content of the Elementary Curriculum.—A. H. Chamberlain, treasurer, N.E.A., Pasadena, Cal.; F. E. Downes, superintendent of schools, Harrisburg, Pa.; E. C. Warriner, superintendent of schools, Saginaw, Mich.; H. L. Smith, superintendent of schools, Bloomington, Ind.
2. The Grading and Promotion of Pupils.—Charles S. Hartwell, secretary Joint Committee on School Organization of New York City Teachers' Association, Brooklyn, N.Y.; F. E. Converse, superintendent of Schools, Beloit, Wis.; H. B. Wilson, superintendent of schools, Decatur, Ill.; E. J. Brown, superintendent of schools, Dayton, Ohio.

EVENING SESSION

A joint session of the Department was held with the American School Hygiene Association, The American Physical Education Association and The Public School Physical Training Society; President Stratton D. Brooks presiding. The following program was presented:

Topic: Children Differ in Physical Condition

1. Health and Education.—Thomas F. Harrington, M.D., director of school hygiene, Boston, Mass. (Representing the Department of Superintendence.)

2. The Health of the Teacher.—Luther H. Gulick, M.D., director, Department of Child Hygiene, Russell Sage Foundation. (Representing the American Physical Education Association.)

3. The Principle Underlying Modern Physical Education.—Herman H. Horn, professor of education, New York University. (Representing the Public School Physical Training Society.)

THIRD DAY

MORNING SESSION—THURSDAY, MARCH 3

The Department was called to order at 9:30 A.M. by President Brooks. The following was the program of the session:

Topic: Children Differ in Environment

1. Southern Educational Problems.—Samuel E. Weber, inspector of state high schools for Louisiana, Baton Rouge, La.

2. Education in the Country for the Country.—John W. Zeller, state commissioner of common schools for Ohio, Columbus, Ohio.

General Discussion—Leaders: Thomas P. Bailey, superintendent of schools, Memphis, Tenn.; C. B. Connelley, dean of the School for Apprentices and Journeymen, Carnegie Technical Schools, Pittsburg, Pa.; John F. Haines, county superintendent of schools, Noblesville, Ind.

At the conclusion of the discussions of the topic of the morning, William L. Hailmann, of the City Normal School of Cleveland, Ohio, read the report of the Committee on Music Education and moved its adoption. Superintendent Blewett, a member of the committee, arose to explain why he could not sign the report. He objected to the adoption of the report because he feared that in adopting it the Department would be establishing a precedent that might in the future be quoted by private interests seeking to use the Department for private gain.

Ossian Lang, editor of the *School Journal*, of New York City, defended the report on the ground that it did not represent a private interest, but one of universal importance. The motion to adopt prevailed.

Superintendent Blewett, chairman of the Committee on Resolutions, then read the following resolutions and requested that the first and second sections referring to William T. Harris and George P. Brown be voted on separately and that a rising vote be taken. This request was granted, and on motion the first and second resolutions were adopted unanimously by a rising vote.

REPORT OF COMMITTEE ON RESOLUTIONS

Resolved:

1. That in the death of William Torrey Harris our country lost its most profound philosopher, American education its most distinguished leader, and the National Education Association its most respected and best-beloved member. The memory and the record of his work in this association will be cherished as one of the richest heritages of our body.

2. That this Association learns with the deepest regret of the recent death of George P. Brown, for many years one of its most honored and conspicuous members. His likeness to his illustrious friend, Dr. Harris, was often remarked. In philosophic insight, in clear grasp of fundamental principles, and in beauty of character they were singularly alike. Both devoted their lives mainly to the solution of educational problems, more especially to those of the elementary school. As teacher, educational writer, and philosopher, Mr. Brown made a distinguished place for himself in the annals of public education in this country.

*3. That the increasing efficiency of the Bureau of Education is establishing faith in the importance of its function in the national life. It is the hope of the Department of Superintendence that, because of the Bureau's broad influence upon national ideals in education, the nation shall within a short time place it among the departments of the

*Not adopted: referred to a special committee.

executive branch of the government and recognize it thus as the department to which is intrusted the development of the nation's most precious resource, her children.

4. That the Department of Superintendence is in full sympathy with the ultimate motives of those who have suggested to Congress the establishment of a children's bureau; but unquestionably believes that the work proposed for such a bureau is naturally part of the work of the Bureau of Education, and that any division of responsibility would result in confusion and waste. The Bureau of Education must consider all conditions that affect the education of the children favorably or unfavorably, and such research should be intrusted to its experts with specialized training for such investigations carefully selected and adequately paid.

5. That the Department while heartily approving every agency that may be used to advance the educational interests of both state and nation, places itself on record as disapproving any appropriations made by either legislatures or Congress for any institution which is not supported exclusively by public funds and which is not subject to complete federal or state control and investigation.

6. That, because the statistics published in school reports are inadequate for the purpose of comparison, the president of this Department is hereby authorized to appoint a committee of five to formulate and report at the next annual meeting of this Department a system of statistics which will secure uniformity in reports on all points of common concern.

7. That the problem of retardation in our schools demands our careful consideration. Superintendents should emphasize all means which will reduce the amount of retardation without sacrificing the efficiency of the work. Late entrance and irregularity of attendance are important causes of retardation which can be overcome to a great extent thru more intelligent co-operation of the home. The poor adjustment of the elementary curriculum to the needs of many retarded pupils can be remedied in part by modifications in the course of study to suit it to the local problems, and each superintendent must attack this problem in the light of local conditions. There must be a clear recognition of the fact that the assignment of a child to a grade should depend upon his ability to profit by the new work rather than upon the specific knowledge already attained, or upon the failure measured by marks and grades of the preceding term. The superintendent should hold the principal responsible for the individual promotion of exceptionally bright pupils, that there may be no retardation of a pupil in grade or work below his ability to carry successfully. The principal should understand that this case is one of his most important obligations and privileges.

8. That the 18th of May, the anniversary of the first Hague Peace Conference, be observed in the schools by setting aside a portion of the day for appropriate exercises in recognition of the endeavor of the nations to establish a higher moral ideal in international relations.

9. That we favor the encouragement of agricultural education by national and state assistance.

10. That the thanks of the Department be hereby expressed to Superintendent Calvin N. Kendall, the local committee, and the press for the many courtesies shown to the officers and members of the Department.

Respectfully submitted

Ben Blewett, *Chairman*
Charles E. Chadsey
Charles H. Keyes
Edgar H. Mark
Committee

After some discussion of the resolution recommending that the Bureau of Education be made a department of the national government, to be represented by a member in the President's cabinet, an amendment prevailed referring this question to a committee of five to be appointed by President Brooks; this committee to make recommendation at the next annual meeting of the Department. The remaining resolutions were then adopted by a unanimous vote.

Superintendent Blewett moved that a delegate be appointed by the president-elect of the Department, to represent the Department at the coming Educational Conference at Brussels. This motion prevailed.

AFTERNOON SESSION

The last session of the Department was called to order at 2 P.M., President Brooks presiding. The following topic was considered:

Topic: Children Differ in Vocational Aim

1. Industrial Education in Elementary Schools.—Ben W. Johnson, director of manual arts, Seattle, Wash.

2. Vocational Courses in Secondary Schools.—W. F. Webster, principal of East High School, Minneapolis, Minn.

3. Trade Unions and Industrial Education.—W. B. Prescott, secretary, International Typographical Union Commission on Supplementary Trade Education.

General Discussion—Leader: George H. Whitcher, superintendent of schools, Berlin, N.H.

At the conclusion of the discussion there being no other business the Department adjourned *sine die*.

J. F. KEATING, *Secretary*

SUPPLEMENTARY

The following-named committees authorized by the Department of Superintendence were appointed by President Stratton D. Brooks subsequent to the close of the convention. All of the appointees have accepted appointment, viz.:

COMMITTEE ON SCHOOL STATISTICS

Payson Smith, state superintendent of public schools, Augusta, Me., *Chairman.*

Charles M. Lamprey, head of the Department of History and director of the Model School, Boston, Mass.

William H. Elson, superintendent of schools, Cleveland, Ohio.

E. C. Warriner, superintendent of schools, East Saginaw, Mich.

George D. Strayer, adjunct professor of elementary education, Teachers College, Columbia University, New York City, N.Y.

COMMITTEE ON THE BUREAU OF EDUCATION A DEPARTMENT OF THE NATIONAL GOVERNMENT

William H. Maxwell, superintendent of schools, New York City, N.Y. *Chairman.*

Ben Blewett, superintendent of instruction, public schools, St. Louis, Mo.

Carroll G. Pearse, superintendent of schools, Milwaukee, Wis.

J. Stanley Brown, superintendent, and principal of Township High School, Joliet, Ill.

John W. Abercrombie, president of the University of Alabama, University, Ala.

IRWIN SHEPARD, *General Secretary, N.E.A.*

PAPERS AND DISCUSSIONS

TOPIC: CHILDREN DIFFER IN MENTAL ALERTNESS

I. WHAT CONSTITUTES RETARDATION? HOW SIGNIFICANT ARE RETARDATION STATISTICS? WHEN IS RETARDATION JUSTIFIABLE? HOW MAY IT BE CORRECTED?

LEONARD P. AYRES, ASSOCIATE DIRECTOR, DEPARTMENT OF CHILD HYGIENE OF THE RUSSELL SAGE FOUNDATION, NEW YORK CITY

WHAT CONSTITUTES RETARDATION?

During the past few years the term "retarded" has been applied with increasing uniformity to describe the condition of school children who are too old for their grades. It describes but does not attempt to explain. It is applied to all children of this class whatever may be the cause or causes which account for the fact that they are above the normal age for their grades. They may have entered school late, or they may have made slow progress:

under both circumstances they are termed "retarded." It is in this sense that the word will be used thruout the present paper.

Now many able educators, and among them some of the keenest thinkers in the profession, have taken issue squarely with those who use the term in this way and have argued that the proper criterion for judging backwardness among school children is not age in grade but rather rate of progress.

Here then we have two criteria, one setting up an arbitrary standard which says that the boy who is eight years of age or older in the first grade, nine years old or older in the second grade, etc., is "retarded" and the other claiming that the child who takes more than one year to complete the work of one grade is retarded.

The criterion which judges the extent of retardation in a school system by telling how many of the children are too old for their grades has won its way into nearly universal use because it gives the quickest, clearest, and most easily understood answers to these questions. To discover how many over-age children there are in his school system a superintendent has only to draw up a table showing the distribution of children by grades and ages and to draw thru it a line separating the over-age children from those of normal age.

The objections that have been brought against this method are: first, that it exaggerates the extent of the evil; and second, that the facts shown are non-significant because the child who enters school late is not retarded at all but will make such rapid progress as to more than catch up with those who entered earlier.

Considering now the first of these two objections, is it true that the age standard of measuring retardation exaggerates the seriousness of existing conditions? In New York City 16,000 children graduated from the eighth grades last June. Of these children 42 per cent. were retarded according to the age standard, and 43 per cent. had required more than eight years to complete the eight grades. In another study of the school histories of 19,000 children in New York it was found that 23 per cent. were over age but that 40 per cent. had made slower progress than that called for by the course of study. In an article published in the *Educational Review* for September, 1909, Dr. Roland P. Falkner published data from a number of cities showing that when we can apply both the age-in-grade and the progress criteria we find almost without exception that the age standard understates rather than overstates the extent of the evil.

Turning now to the second objection we are confronted by the claim that the child who enters school late readily overcomes his initial handicap and by rapid progress soon catches up with the children who entered early and even passes them. Here again the question at issue can only be answered by an appeal to fact, not to opinion.

Reference has been made to a study of the school records of the 16,000 children who graduated from the eighth grades in New York City last June. One part of that study consisted of a tabulation of the records of progress

made by the children who entered at each age. In this study only the records of the children who started in the first grade and completed the eight grades were taken into consideration. The results are shown in the following table:

AGE AT ENTERING AND MONTHS REQUIRED TO COMPLETE EIGHT GRADES

Age at Entering	Number of Children	Median Number of Months to Complete Course
5	1,521	82
6	5,828	81
7	2,936	80
8	721	79
9	142	74
10	26	69
11	9	66
12	2	63

The lesson taught by the table is that children who enter school late make a little more rapid progress than do those who enter early, but that it is only a little more rapid. To state it another way, the lesson is that the child who enters late will not, as has been claimed, catch up with the child who enters early. The figure which tells us how many over-age children there are in each lower grade is an important figure because it helps to tell us how many children are not going to be able to stay in school long enough to graduate.

To summarize: retardation is a term used in educational economics to signify a condition and a result, not an explanation or a process. A retarded child is a child who is too old for the grade he is in. Why he is too old the term does not attempt to explain. Retardation is found to a greater or less extent in all school systems. Because of it half of the children who enter our city schools fail to graduate. Retardation as calculated by the age-in-grade standard has not been overstated. This standard is more easily applied than the progress standard and the conditions it discloses are of the utmost importance.

HOW SIGNIFICANT ARE RETARDATION STATISTICS?

When a superintendent has before him a table showing just how many children there are in each grade who are older than they ought to be for that grade the information is certainly significant.

But suppose that last year's figures show the superintendent that 30 per cent. of the children were then retarded and this year's figures show him that now only 25 per cent. are retarded. How significant is this change? The answer is that it may or may not be significant.

In the first place if last year's computation was based on the total enrollment for a term or the entire year and this year's figures were secured on the basis of the enrollment or attendance on a given day the two figures are not comparable. The reason is that figures giving the total enrollment almost

always give a fictitiously large membership to the lower grades and the percentage of retardation computed on the basis of the total enrollment for a term or year will be untrustworthy.

The lesson here is that retardation statistics are not to be trusted for purposes of comparison for different years in the same system or in different systems unless they are computed on just the same basis of enumeration.

But there is another factor which has the greatest influence in affecting the figures showing the percentage of retardation in any system. This is the date on which the computation is made.

In 1908 the cities of Springfield, Mass., and Springfield, Ohio, published tables showing the age and grade distributions in their school systems. These tables showed that in the Massachusetts city the percentage of retardation was 22 while in the Ohio city it was 38. Are these figures significant in the sense that they show that conditions are very much better in the Massachusetts city than in the Ohio one? We find that the Massachusetts data were gathered in September while those in Ohio were gathered in June.

If the over-age children had been enumerated in the Massachusetts city in June instead of September they would have constituted 42 per cent. of all of the children instead of 22 per cent. On the other hand, if the backward children had been enumerated in Springfield, Ohio, in September instead of in June as they were, they would have been 23 per cent. instead of 38 per cent. The result of all this is that we see that the conditions in the two cities are very nearly equal with perhaps a slight difference in favor of the Ohio city.

The principle underlying this is most important. It is largely because this fundamental difference has been ignored that inter-city comparisons of retardation have been so unsatisfactory and have given results that we have all mistrusted.

In the considerations that we have reviewed we have an answer to our second main question, which was: How significant are retardation statistics? The answer is that they are important and significant in disclosing to the superintendent important facts about his schools. They are unreliable and deceptive for purposes of comparison unless the children are enumerated on the same basis and the ages of the children are recorded in the same month of the year.

WHEN IS RETARDATION JUSTIFIABLE?

The answer to the question, When is retardation justifiable? seems to be, When it is the result of circumstances beyond the control of the school authorities.

If a boy is older than eight years of age when he enters the first grade he is bound to be numbered among the retarded in the following grades.

We may put retardation because of late entrance in the category which we are calling "justifiable retardation" in the sense that the school and the school authorities cannot be held blameworthy for its existence.

This brings us to the retardation that is caused by slow progress. In an investigation in New York City it was found that of every hundred retarded children 30 were retarded because of late entrance; 13 were retarded because of late entrance combined with slow progress; and 57 were retarded because of slow progress alone.

Thus we see that slow progress is by far the greatest cause of retardation. How much of it may be termed justifiable? In the first place the school is not to blame for the fact that there are in every considerable community some genuinely mentally deficient children. They are apt to constitute perhaps one-half of 1 per cent. of the school children.

These children should not be in the public schools at all. They cannot be taught by regular classroom methods and are really institution cases.

Ranking above these unfortunates we find a much larger number of children who are not mentally deficient, subnormal, atypical children, but are genuinely dull. They may be taught in the public school but need special classes. Such children are apt to constitute 2 or 3 per cent. of the school membership.

The children of these two classes, the mentally deficient and the dull, are justifiably retarded in the sense that their backwardness is no fault of the school system.

A third class consists of the immigrant children who enter our schools ignorant of the English language and who often enter at advanced ages. It is no fault of the school that large numbers of such children enter its doors.

A fourth cause of slow progress is physical defectiveness. Studies in the New York schools have shown that it takes the child who has seriously defective teeth on the average of one-half of a year more to complete the eight grades than it does the child who has sound teeth. In a similar way the child who has adenoids requires more than a year longer to get through than does the child who is not so handicapped.

We have considered four causes of the sort of retardation that we may consider wholly or in part justifiable. The extent of such retardation varies greatly in different localities and under different conditions. It is probable that often from a third to one-half of all of the retardation in our school systems is justifiable in the sense that the responsibility for it cannot be laid directly at the door of the school and the school authorities.

HOW MAY RETARDATION BE CORRECTED?

Retardation may be corrected by measures that reduce late entrance and encourage normal progress. The measures which will tend to reduce late entrance are of two sorts. The first consists of extending the lower limit of the compulsory-attendance period so that children will be required to attend school at the age of seven rather than at the age of eight. The second measure consists of ceasing to educate the parents of our children in the belief that the child who enters school at the age of eight or nine is certain to more than catch

up with the one who enters at five or six until we have definite, reliable data to support those statements.

Turning now to the measures which will result in more children making normal progress we have first to consider the question of special treatment for the three special classes of children already mentioned.

There is no division of opinion on the proposition that in all school systems it is a duty owed to the community, the teachers, and the children to discover which of the pupils are feeble-minded, and segregate them in institutions if possible. It is almost equally true that we are all agreed that it is good economy to organize special classes for the dull children and the non-English-speaking children.

A second sort of remedial measure consists of the developing and perfecting of measures for conserving and increasing the physical soundness of the pupils, for discovering and excluding cases of contagious disease, for finding and having remedied physical defects, and for making the entire school and its surroundings happier, healthier, and more wholesome.

The next sort of remedial measure consists of the sort of record-keeping that shall enable the school to keep track of each individual child from the time he enters school until he leaves and to tell when he fails and why he fails and guide in preventing him from failing.

The third consideration, and in this limited paper it must be the final one, is that if we are to correct retardation we must so change our courses of study or our methods of grading and promotion that the children who make rapid progress through the grades shall be at least equal in numbers to those who make slow progress. At the present time this condition does not exist commonly, if indeed it does anywhere.

At present our courses of study are not fitted to the abilities of the average pupil but to those of the unusually bright one. In an investigation in New York it was found that for every child making rapid progress through the grades there were eight who made slow progress. Last year in a Massachusetts city for every one making rapid progress there were twenty-one making slow progress. In a large city in Pennsylvania the slow pupils are fourteen times as numerous as the rapid ones. In five other cities in different parts of the country the slow pupils are from ten times as numerous to 150 times as numerous as are the rapid ones. It is probably a most conservative statement to say that in the average city there are at least ten times as many children making slow progress as there are making rapid progress. To change this condition is the great school problem.

To summarize: The problem of retardation is the problem of finding the leak through which half of our children escape before they complete the elementary course. The causes of retardation are late entrance and slow progress. Not all retardation can be done away with, but it can in most cases be materially reduced. The measures whereby it may be reduced are none of them untried experiments. All of them are measures which may be put

in practice by any community. Most of them are now being used with entire success in more than one city.

II. PROVISION FOR GIFTED CHILDREN IN PUBLIC SCHOOLS

JAMES H. VAN SICKLE, SUPERINTENDENT OF SCHOOLS, BALTIMORE, MD.

During the past decade much attention has been given in public-school systems to the problem of the backward, delinquent, and defective children who clog the lower grades of our schools and retard the progress of the children of normal mentality. The movement for special classes for the few—possibly 2 per cent. of the whole number—who cannot profit by instruction as given under ordinary school conditions, is undoubtedly in the right direction. I would go farther and say that another group of children, numbering possibly 8 or 10 per cent. of the whole enrollment, intermediate in mental grasp between the extreme cases and the great body of average children, should receive such individual attention as cannot be given in large classes because many of them will later develop marked strength, if they are now enabled to proceed at the moderate pace needful for them.

The topic assigned to me assumes that there are children at the other extreme of ability for whom, also, special provision should be made. President Eliot has often called attention to the importance of discovering these capable individuals and giving them opportunities commensurate with their abilities, so that society may use them "to lift the whole population to a higher plane of intelligence, conduct, and happiness." Theoretically, most people are willing to admit that the general tendency in a democracy is to bring all men to a common level; and that the level toward which we tend is the level of the average intelligence rather than that exemplified in the genius; and that the only way to lift the whole population is to develop capable individuals to take the lead in the lifting. It cannot be denied that the graded-school system, by its tendency toward uniformity, has operated toward making us satisfied with a medium level of attainment. Undoubtedly, one of its effects has been to raise many individuals to a higher level than they might otherwise have attained, and this is good; but, on the other hand, it has made many other individuals satisfied with lower attainments than those of which they were capable, and this is not good. It is not easy to break the "cake of custom" that fifty years of uniformity have created; but now that such signal progress has been made in the proper education of children at the lower levels of ability, we may hope for at least equally valuable results from special attention to children of exceptionally strong mental endowment. For the purpose of this discussion these children are spoken of as "gifted." By the gifted child we do not mean the genius in the sense in which Mr. Galton uses the term. We refer to a more numerous class of children endowed with somewhat more of intellectual power and energy than the great mass of children in our schools. Of course there is no clear-cut line of division anywhere

between the various groups. They shade into each other, and we shall often be in doubt as to the group in which a child belongs, but even under such circumstances there is a gain for education, because we shall sooner solve a problem by recognizing it as a problen than by ignoring it altogether. Statistics are available showing about how many subnormal childern there are among every one thousand, but we do not know how many gifted children there are among every one thousand. We do not know because we have not been looking for them. Under the operation of school-attendance laws, instead of easily getting rid of the dullards and laggards, as we too often formerly did, we are undertaking to hold them and teach them, and it is an easy problem to discover who they are. They force themselves upon our attention. Too often, on the other hand, we fail to notice that some children in our classes might do much more work than we are requiring of them. From time to time a few, by reason of their special aptness, have commanded our notice, but we have not considered that they needed any special opportunities. We have, as a rule, held that these bright children would in some way take very good care of themselves; that if a child had any special ability he would make his way in spite of all obstacles. This may be true of the extremely limited number of individuals included in Mr. Galton's definition of genius; for he holds that the actual genius is the only genius; or, in other words, that the only individuals of superior native ability are the ones who have demonstrated that superior ability by actual accomplishment, and conversely, that those who have not actually demonstrated the possession of superior native powers do not possess them. He rules out the extremely important factor, "opportunity." According to Lester F. Ward,

> the only true test of genius (ability) is trial. But unless the conditions for trial are present there can be no trial, and without trial under favorable conditions there is no basis for judging whether there be genius or no.

Ward's position in this matter, tho somewhat oversanguine, is to my mind more reasonable than Galton's.

> Great men [he says] have been produced by the co-operation of two causes—genius and opportunity; neither alone can accomplish it. But genius is a constant factor, very abundant in every rank of life, while opportunity is a variable factor and chiefly artificial. As such it is something that can be supplied practically at will. The actual manufacture, therefore, of great men, of the agents of civilization, of the instruments of achievement, is not a Utopian conception, but a practical undertaking . . . . it consists in the extension to all the members of society of an equal opportunity for the exercise of whatever powers each may possess.

How slight an opportunity to develop whatever powers they may possess have children who drop out of school and enter the ranks of unskilled labor as soon as the law permits! Often a parent is unaware that his gifted child is the possessor of any special talent unless so informed by the teacher. Not infrequently when so informed, a parent will keep his child in school even at the sacrifice of the small but important pecuniary aid which the child's labor

would afford. By dealing thus with parents whose only capital is their labor, teachers are able to aid very materially in bringing genius and opportunity together. But keeping children in school is not enough. There must at the same time be offered the opportunity for the more able pupils to exercise their ability. Adherence to fixed and unchangeable courses of study and to inflexible schemes of classification fall far short of furnishing equal opportunity to all in our schools. Total lack of systematic procedure would equally fail to secure the desired equality of opportunity, for stimulation and guidance must be well organized and constant. We hear of isolated instances of such stimulation and guidance, but not often of well-organized schemes which may be applied on a large scale, as in a city system of schools.

There is a considerable body of literature on the subject of backward children, the lower 10 per cent. of our enrollment, but very little on the upper 10 per cent., the gifted. Mr. Kendall's presentation of the case of the ablest pupils, two years ago, is the only one giving definite plans of procedure that I can find in the *Proceedings* of the National Education Association. The Mannheim scheme of classification (briefly described on pp. 43–47 and 121–23 of Bulletin No. 376, Bureau of Education, entitled *The Auxiliary Schools of Germany*) makes special provision for the abler pupils by grouping them in separate divisions. The "Report of the Committee on Provision for Exceptional Children in the Public Schools," presented at the Cleveland meeting of the National Education Association, devotes the greater part of its space to abnormal and subnormal children. Only one page is devoted to provision for exceptionally capable children, and the attitude taken by the committee is, that the problem, while immensely important, remains unsolved. (*Proceedings*, National Education Association, pp. 350–51.)

In the same volume Dr. Charles A. A. J. Miller, of Baltimore, devotes a half-page to this topic (p. 959). The Report of the Committee on Six-Year Course of Study is suggestive, especially in recommendation 4 (*Proceedings*, National Education Association, 1908, p. 627). A year later the same committee made a report (*Proceedings*, National Education Association, 1909, pp. 498–502) in which there appear twelve brief statements of plans designed to meet the needs of pupils of varying ability. In the same volume, pp. 175–82, Mr. Walter Siders presents an excellent discussion of certain phases of the subject.

The value of any plan must be measured by its results. We cannot expect complete and convincing reports of results in the early stages of the operation of any plan; but where, as in Indianapolis, Worcester, Baltimore, and elsewhere, special provision made for the abler pupils has been in operation for several years, a tentative statement might at this time be possible. For instance, where high-school credits have been earned by elementary-school pupils, it would be possible to make a numerical statement of that particular kind of result and to say something specific as to the class rank of such pupils upon graduation from the high school. Such a statement would be of more

value for comparison than an indefinite remark to the effect that by means of a given plan "many pupils save considerable time" or "some pupils are able to complete the high-school course in three years." Instead, therefore, of indulging in indefinite statements, I shall attempt to give a brief statistical report of measurable results accomplished by means of a plan, common to several cities, which, beginning in a small way in the fall of 1902, we have been using in Baltimore. The plan, in brief, is to allow pupils who have done strong work in the sixth grade to take up extra studies of high-school grade while doing the regular work of the seventh and eighth grades of the elementary school. These studies are Latin, French, or German, advanced English, and, in exceptional cases, some of the mathematics of the first high-school year. Pupils who take this work are transferred to a convenient center in which enough pupils may be gathered together to allow the instruction to be organized on the departmental plan. We started in 1902 with one center enrolling 173 pupils, and that year we admitted pupils of the eighth grade as well as the seventh. In 1903 and later, admission was limited to pupils just entering the seventh grade. We now have four centers with an enrollment at present of 571 pupils. For three years one of these centers has been allowed, by way of experiment, to keep selected pupils for an extra year. Such pupils spend but two years in the high school. Other preparatory pupils ordinarily spend three years in the high school; but in either case, for preparatory pupils, the time required for high-school graduation after the sixth elementary grade has ordinarily been five years, whereas six years would have been required had it not been for the high-school credits earned in the elementary school.

The preparatory arrangement was in only a formative and transitory stage during 1902–3, 1903–4, and 1904–5. High-school adjustments also were quite difficult at first. Hence, of pupils promoted to the high school in 1903, 1904, and 1905, a majority were unable to graduate in three high-school years. With the preparatory class promoted in June, 1905, the tide turns, and thereafter we find that nearly all pupils entering high school from preparatory classes have been able to earn the diploma of graduation in three years.

The first preparatory-school pupils were graduated from the high school in 1906. By June, 1910, 236 in all will have graduated. Of these, 41 were in the high school proper but two years; 120 were in high school three years, and 75 four years. Among the latter were 57 who spent but one year—the eighth—in a preparatory center, the one which was opened in 1902. While these 75 pupils who, in the early days of the plan, spent four years in the high school did not save any time, they enjoyed marked advantages. They earned 13,050 credits, or an average of 174 each; whereas the number required for graduation was only 150. It is quite evident that the high-school course pursued by these pupils, tho not shortened, was made much fuller and richer than it would have been had they entered from the ordinary eighth grade.

A study of individual records of high-school graduates who came from the

preparatory classes shows in general that a notable gain was experienced in one of two ways: either the student gained a year or more in time, securing the high-school diploma in three years or less instead of taking the customary four years; or the student, tho spending four years in the high school, was able to rank among the honor graduates of his class and to secure a much broader and richer training than the regular four-year student secured. In a relatively larger number of cases where the student took a third preparatory year in the single center offering this extra preparatory year, distinct gain was experienced in both these directions at the same time, because the high-school diploma was secured after only two years in the high school proper, and the student also stood among the honor graduates.

Six preparatory-class boys who spent three years in preparatory class and only two in high school, and who graduated in June, 1909, won a rank of 34 in a class of 133, or 32 places above the middle of the class, and two were among the first twenty in the class. Eight girls from the same preparatory class, graduating from the high school at the same time, made an average of 21 in a class of 161, or 59 places above the middle of the class (in Baltimore boys and girls go to different high schools). One of these girls stood second in her class and three others were among the first twenty. The average number of credits earned by this company of boys and girls was 165, or 15 in excess of requirements. The graduation of 236 preparatory pupils from the high schools in the four years ending in June, 1910, is not a large showing when we consider that in these four years the same high schools (three out of the five in our city) have graduated 1,342 pupils; but the plan is very new compared with the usual one, and a number of obstacles must yet be overcome. Some parents do not fully understand the plan. Not all teachers can be quite impartial in their attitude toward a scheme of work which takes away from the regular classes some of the more desirable pupils. Furthermore, many pupils entering the seventh grade are timid about going to a strange school located at a point somewhat distant from their homes; and so it happens that only about one-third of those recommended as capable of taking up the extra preparatory work avail themselves of the opportunity offered. If the work were carried on in every large school so that pupils could enter upon it without being transferred away from the home school, doubtless more would attend; but unless there are enough enrolled at one point to form at least three classes, the teaching cannot be economically provided for. For this reason we are using for the preparatory classes only selected centers, and for the further reason that our plan enables us to utilize schoolrooms in portions of the city where the population is decreasing and where consequently some schoolrooms have become vacant.

There are now enrolled in our preparatory classes in the elementary schools 571 pupils, and in the high schools, exclusive of students to graduate in June, there are now 223 students who were promoted from preparatory classes. Mr. Ward's statement that genius is not restricted to any rank of life is borne

out, in the case of our preparatory pupils, by the interesting fact that in these classes are to be found boys and girls representing every rank of the social order and wide variety of home conditions. To take this material and, following Ward, make "leaders and builders of civilization" out of it is an ambitious undertaking—so ambitious that we do not aim so high; but, judging by the energy and enthusiasm that these selected pupils put into their work, and the marked success which they have so far attained as measured by school standards, we are quite certain that they will display somewhat more of energy and efficiency in whatever field of life-effort they enter, than if, during their schooldays, they had become contented with a lower level of effort and attainment.

III. WHAT CONSIDERATION SHOULD BE GIVEN TO SUBNORMAL PUPILS?

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My task this morning is the discussion of provisions for what in this symposium is called the "subnormal" child with reference to mental alertness. A distinction is made in the program of this meeting between degrees of mental alertness and of moral responsibility; differences are recognized in the mental attitudes, the physical condition, and the environment of children. This method of classification does not appear fully satisfactory; for these various forms of exceptional development are interdependent. Bodily defects, illness, and deformities will produce mental and moral deviations which can be controlled by controlling the physical cause. Even imperfect brain development, or an impairment of the nervous system, are after all bodily defects. And that the environment of the child has its counterpart in the child's mental and moral attitude needs hardly any specific statement. Seeming moral defects are not infrequently intellectual defects—an inability to appreciate the consequence of actions, weak perception and conception generally, and lack of judgment, all of which tend toward manifestations which have an ethical significance.

Again, when we speak of differences in mental alertness we rarely think of legitimate differences in aptitudes. Generally speaking, a child is considered backward, and lacking in mental alertness, if he has difficulty in acquiring the school arts of reading, writing, and arithmetic which are usually taken as standards or gauges of efficiency. If a child is backward in drawing, painting, basketry, or other activities of this kind, including, perhaps, even laboratory work, he will not readily be counted among the backward, if he can read, write, and cipher according to the standard of the school. And yet the artistic person, or the constructive mind, from his respective point of view, will have a perfect right to consider those children defective who cannot develop along the lines of artistic and constructive activity, no matter how well they can read, write, or figure. This would seem to show that a

statement of difference in mental alertness is more difficult than would appear at first glance. It is well that in this symposium the discussion of children who differ in mental attitudes, tastes, and tendencies should have found a place; but from the topics as presented in this program it would seem that a difference of this kind is recognized only in the pubescent and adolescent ages, while it would apply with some force to many younger children.

I will not enter into a discussion of the desirability of a proper classification of exceptional children. Suffice it to say that without the establishment of a generally accepted classification and terminology, we may not be able to discuss the problem with sufficient lucidity. The writer of this paper has presented a tentative classification which has been favorably accepted in many places and been made the basis of discussion in professional courses. Its author is painfully conscious of its defects; but it may at least be considered the starting-point for the general acceptance of a suitable nomenclature.

In this paper, the term "subnormal" is used, not in the sense in which my own classification employs it, but as referring specifically to mental retardation and arrest. The question under discussion is what consideration should be given to mentally retarded pupils in the public schools.

The first claim which these children have is certainly that they be considered; in other words, that they be given an opportunity to develop along the lines of their individual abilities. The community owes them as much consideration as it owes the so-called "normal" child.

Recognizing the presence of a relatively large percentage of subnormal children in our schools, it is very necessary to take cognizance of the incipient stages of deviation from normal development, as the latter is generally understood. If this can be effected, much difficulty will be avoided and many children will be saved for useful citizenship who may otherwise be permanently derailed.

It is well enough to say that teachers and school principals should be trained in ready recognition of evidence of abnormal conditions. But unless there is a well-organized system of examinations, tests, and research work, conducted by medical inspectors, boards of health, psychologists, and neurologists, in conjunction with what may be called the "educational pathologist," relatively little will be accomplished. Regular and frequent measurements alone will reveal danger-signs, for it has been shown that the relative height and weight of children are indices of mental capacity. And if co-operation with the homes and the family physicians of the pupils can be established, much helpful information can be gained.

Those children who are found wanting in some respects by these various observations need not all be immediately removed from the regular class. Medical treatment and some special regard for their individual differences may suffice.

If the difficulty is more serious and the discrepancy between the class aim and the child's ability to reach it is too patent, removal from the regular

class is indicated. Such children should be placed in a special observation group, which may be looked upon as a kind of pedagogical clinic. This clinic will serve as a "clearing-house." Children with whom it is merely a matter of readjusted instruction may be placed in "special" or "ungraded" classes; others may need a manual-training school, or a trade school, in lieu of the ordinary three-R's school which they attend. Some will thrive better in a farm or garden school. In Germany, they have founded what have been called "forest schools" for children of this class. In other words, it may mean a transplantation of the child into a different educational environment with different standards.

Again, if specific defects are found, such as will handicap the child in its school career, when there are graver mental imperfections and neuropathic conditions, a removal to special institutions is necessary. Feeble-minded children and those with ingrained perverse tendencies have no place in public schools, but should be put under custodial care.

This plan in its entirety may seem ideal and even utopian to some. While perhaps in the evolution of proper provisions for "subnormal" children we may have to be satisfied temporarily with but a fragmentary realization of this plan, it will be found the only true solution of the problem. It may require considerable expense and it may be difficult of smooth organization. But it will *save* cost and difficulty to an undreamed-of extent if we consider the enormous expense which is imposed upon human society by pauperism and crime, by charity and correction, by judiciary and penal measures. Mr. Leonard P. Ayres has recently shown that the handicap caused by such physical defects as the school doctors discover amounts to about 9 per cent. In 1906–7 the total amount expended by schools in the United States was $336,898,333. If, to use the argument of Mr. Ayres, nothing were done to remove the educational handicap imposed by removable physical defects, $30,320,850 of this money would thus be wasted every year. This amount can be saved by proper medical inspection. But the medical factor is only one in the solution of the problem of the "subnormal" child. The total number of removable and controllable difficulties is vastly in excess of 9 per cent. of the total.

The pupils in our schools who are now allowed to drift, without proper attention to their difference in mental alertness, not to speak of their differences in other respects, may be compared to the waste products in industry. In industrial processes it has become the commercial ideal that there shall be no residue left which would go to waste; and the secondary product, or by-product, now often assumes greater importance even than the primary. Likewise, the apparently subnormal child may be developed into a useful by-product, and among the subnormal children there may be found such as will become leaders if developed in the right direction. And if it were only that the injurious residues are rendered harmless, as is done in factories with the greatest care, and as ought to be done in our educational institutions with

equal care, society will be saved an enormous amount of damage. When once we will apply the same painstaking, minute, and completely organized methods which are followed in commerce and industry to the process of molding the human material, we shall eliminate from society the greater part of those injurious elements which now threaten its health and even existence.

From what has been said it will be seen that to my mind the function of the special or ungraded class is not what it is commonly understood to be. Usually it is a sort of dumping-ground for all those children with whom the regular grade teacher does not know what to do. It was perhaps a progressive step when the so-called "incorrigible" child was separated from the so-called "mentally defective" child, and put in special classes or schools. Of course, if the "incorrigible" child were really incorrigible, he would have no place in the public school, not even in a reformatory; he would have to be placed under custodial care of the closest kind. Fortunately, there are very few really incorrigible children, and most of these can be redeemed if approached in the right manner.

But a public-school ungraded class is not even the proper place for the truly mental defective. Most children who are now in "ungraded" classes should be transferred to institutions or other suitable places where their life conditions can be fully controlled. An "ungraded" class in a public school is after all a class only for such individualized instruction as can be given in a day school. The ungraded or special class is best adapted to what in the tentative classification alluded to before has been called the group of "pseudo-atypical" (or "paratypical") children. They comprise those children whose progress in school was hindered by irregularity of attendance and change of schools; by a slower rate of development, without pathological retardation; by temporary illness; or by slight physical difficulties, such as lameness and minor deformities; slightly impaired vision and hearing; adenoids, etc. The ungraded class will also be of great help to children who have suffered from neglect; further, to the children of some of our immigrants. Children who are difficult of management may find the atmosphere of a special class where their individual instructional needs are better recognized more congenial than in the regular class. It should be the function of the ungraded class to restore its pupils as soon as possible to ordinary school conditions. And we must not forget that an ungraded class may also prove an especial boon to children of unusually rapid development who would feel the burden of mediocrity in the regular class too harassing.

This suggests the problem of methods for the subnormal child. Generally speaking, methods must be adjusted to the individual. There should be no lock-step; the tension of an "average" standard must be relieved; there must be freedom of personality, aptitude, and attitude.

In all grades of subnormal development, down to and including the feeble-minded, perhaps, we may have to recognize that we are dealing with individuals representing different stages of racial development. This is not the place to

discuss the so-called "culture-epoch" theory in detail. It has been vigorously combated. Suffice it to say that no matter what modifications it may have had to undergo, the main facts of racial development have, undoubtedly, their counterpart in the evolution of the individual. We are dealing with instincts, and methods of mental and moral activity, which manifest different degrees and stages of development, from the primitive form to the modern.

Sometimes the seeming primitive instincts, or modes and manners of living, of thinking, feeling, and acting; the crude and coarse tendencies of some subnormal children, do not point back to very ancient levels of civilization and culture. The refinement of instincts, the appreciation and practice of not only more polished, but really purified habits and manners, is a relatively recent thing. Our great-grandfathers differed in this respect very much indeed from the modern conception and from modern mental and moral habits. Superstitions, for example, are not very long extinct, if at all, and yet they reveal an unreasoning mind. Public education, with reading and writing for the masses, marks a very recent stage of civilization. The dame schools of the New England of a century ago were of the most rudimentary character. All this does not mean only differences in opportunity, but indicates deeper differences in aptitudes and attitudes. And the peasant population of some European countries have preserved to this day many of those conceptions and customs which to the modern American mind seem shocking.

Subnormal development, then, apart from genuine pathological cases, will mean that a child represents some by-gone evolutionary stage; a more primitive culture-epoch in some degree. He may be on a lower evolutionary level right thru; which is the rarer case. Or he may possess the original instincts, capacities, tendencies, etc., in various and different stages of development. He may, for example, in the matter of mathematical reasoning and facility still be on what we may call the Egyptian level, while in reading and literary work he is capable of doing work parallel to modern requirements. Or in graphic representation, drawing, painting, and construction, he may still have the Indian method of symbolism, while in mathematics he is capable of competing with the brightest child of modern times.

In dealing with the subnormal child, it will be helpful to remember these facts; and methods and measures should be adjusted to individual needs on the basis of a recognition, and identification, of a child's particular stage of racial development. This development is more or less parallel to his physiological and psychological development; and the nascent stages of his faculties will demand consideration.

Inasmuch as the subnormal child (again not considering pathological cases as such) will present evidences of a more primitive level of psychic growth, it is plain that in his training those elements must prevail which have been essential in developing culture and civilization from primitive times. In other words: objective, manual, industrial, and constructive methods will form the basis of all school work for this class. What in the ordinary

grades of the public school will of course also find recognition in proportion to the age of the children, viz., the principle of manual experience, will with the subnormal child require more prominence, longer application, and more variegated adjustment. For it is thru the evolution of manual and constructive skill, of motor control and muscular co-ordination, that the human race has risen gradually above the lower creation. Reason and judgment grew in proportion to motor control. What is historically evident has recently been demonstrated physiologically, thru special investigations among defective children. Using the dynamometer in testing the feeble-minded children of the New Jersey Training School at Vineland, Dr. Henry H. Goddard found that

> the difference between our children and normals in strength of grip increases steadily and uniformly as we proceed from our highest, what we call our seventh, grade down to our lowest or Grade I. It may, therefore, be asserted that, allowing for some individual exceptions, we can, on the average, determine the grade of a child by finding out how much he can squeeze on the dynamometer. [And he adds] Besides the diagnostic value of this fact, it is of the utmost significance for pedagogy, both of abnormals and normals. Intellectuality and brain power are somehow closely connected with muscular control. The child that learns to use his muscles well is laying the best possible foundations for good will-power, self-control, and high intellectual attainment in whatever direction he applies himself later.

Altho this paper is perhaps particularly concerned with school provisions for the subnormal child, I may be permitted, before closing, to refer to a few other pertinent matters.

Especially under existing conditions, a percentage of subnormal children will leave the public-school care before their restoration to satisfactory balance is completed. Such children will be unfit for self-maintenance, and provisions for their after-care should be made. A discussion of this subject in a committee of the Public Education Association of New York City has led to the suggestion that there should be created municipal and state commissions which, like the Commission on Lunacy, or the Society for the Prevention of Cruelty to Children, would have power to control the proper management of these children. The compulsory-education law may need to have its functions extended in this direction, for not infrequently parents are unwilling, or too ignorant, to take the proper care.

Further: all these provisions will only relieve, to some extent, the condition of children who have already become subnormal. The further problem is to study the operative causes of these deviations from the normal, and to search into the possibilities of removing, or preventing the operation of, these causes. This is a far-reaching sociological problem which is more and more engrossing the attention of the medical and educational professions, of philanthropists, sociologists, and others working in this field. The public schools, by developing provisions for the study and care of subnormal children, will constitute themselves into what may be called a vast educational clinic, and

render valuable aid in the solution of this problem, which in its wider aspect is the problem not only of the subnormal but of the exceptional child.

The problem of the exceptional child is assuming increasing proportions as our study of it grows. We are apt to consider this problem as the result of an increasing deterioration of the race, and to think that individual cases are examples of degeneration in our age of high tension. I fear that there is an overemphasis laid upon objective causes. Especially in the case of the exceptional child who is out of tune with his environment and can be set right if properly understood, this cause plays a relatively small part. It is rather that our understanding of child nature has not kept pace with the increasing complexity which our rapidly changing civilization has created. Our present understanding is adequate for the child of a generation ago, and this is not suited to help the child who must adjust himself to the kaleidoscopic combinations of environment of today. Naturally, the child whose nature is not the average finds the greater difficulty in making these adjustments. I would, therefore, say that the exceptional child of today, with the exception of the lower orders and of truly pathological cases, suffers not so much from inherent deterioration as from our lack of understanding his nature, and from our failure to adjust him adequately to the complex problems of an environment in which he must live without having a ready equipment for adjustment. The process of becoming a unit in a given civilization is a process of assimilation and transmutation. It starts from within us, and implies a projection of the outer world upon the inner. It means, as Froebel puts it, an internalization of the external, and an externalization of the internal.

In this process the exceptional child has particular difficulties inasmuch as he is in a way a representative of a different epoch. Yet a child considered even subnormal in mental alertness if measured with the average or rather antiquated standard of the ordinary curriculum may have a peculiar genius of his own which lifts him above the successful average pupil in human value. The plea for satisfactory provisions for the exceptional child includes, therefore, a plea for a better recognition of child nature in general.

DISCUSSION

F. B. Dyer, superintendent of schools, Cincinnati, Ohio.—The problems arising from the difference in alertness of children were probably not so apparent some years ago, for the reason that when children did not get on in school they got out. Conditions were not so pressing until the rigid enforcement of child-labor laws and compulsory-education laws clogged our educational machinery. In Cincinnati there were 1,648 more children in school over 14 years of age last year than there were the year before, though the total attendance is not greatly increased. Most of these belong to the type of children who formerly dropped out. Anyone who ranks cities by their percentage of retardation alone misunderstands the situation. It is the business of our schools by persuasion, coercion, and every inducement they can honestly offer, to hold the children as long as the school will be of advantage to them, altho as their efforts are successful there will be a relatively larger number between twelve and sixteen who are behind. It is thus that the number of over-age

children has become so conspicuous as to be noticed even by us superintendents. The problem of the precocious child is not much more pressing than it has always been, except by way of contrast. He is more conspicuous because more rare in proportion to the mass. As he will probably be able to take care of himself pretty well, and as his teacher will probably show him off about all that is good for him, I think we are very naturally more distressed about the children who seem to be misfits.

I have time to mention only two methods of improving conditions: Teachers must be apprised of the situation, and aroused to a realizing sense of their responsibility—I should rather say opportunity—in the matter; and we must provide relief in a larger variety of auxiliary schools than we are yet doing.

1. *Acquainting teachers with the situation.*—Some propose semi-annual promotion and a two-class system as a remedy for retardation. These may be worth considering, but hebdomadal promotion and a ten-class system, or any other mechanical device, will not be sufficient. It must be done thru organism and not thru mechanism—thru living, functioning teachers, who are thoroly aware of the situation and who are not blamed with it. Their classes must be small enough for them to look after individual children. They must be disabused of the theory that all children must have everything up to a fixed standard before promotion or that there should be an invariable time for promotion or demotion. They must be instructed how to measure the characteristics of children and how to judge what is best for them. They must be given time and encouragement to visit homes, to advise with parents and arouse them to *their* responsibility in training their children. They should do this, however, not so much for the help they will *give* as for the help they will *get* in the way of insight on their part and intelligent co-operation on the part of parents.

I believe the school principal is another factor of fundamental importance in attacking the problem. Irregular attendance and half-hearted effort are accountable for more retardation than is defective mentality. The principal is the intermediary. We must give him vigilant truant officers, home visitors, medical inspectors, nurses, and all the helps he can use. We must place under his guidance the most competent teaching staff that can be found and encourage him to give his utmost energy to real supervision—or, rather, to *intervision*, if we had such a word. I don't like to think of him as a *super*, looking down from above; I should rather think of him as among, looking in between, selecting those who need stimulation, working with the teacher, talking with the pupils, grouping them according to their needs. I verily believe that with such a vigilant principal, equipped with such help as I have described, the percentage of failures could legitimately be reduced from twenty to ten or twelve under normal conditions.

But these ten or twelve per cent. of failures we shall always have, and any system that pretends otherwise is a system of deception. With the great influx of older children at present, we must for a time labor with a much larger percentage of over-age children. What shall we do with them? I shall confine the discussion to this one class of children referred to by Mr. Van Sickle as the intermediate class.

2. *Provisions for relief.*—(*a*) Auxiliary schools should be provided for retarded children as well as for those who are markedly defective. The old device of an ungraded room is theoretically a good one, but in practice it has not met expectations. When each pupil is a class to himself, about six to ten pupils is the limit of a teacher's ability. The strain upon her even then is excessive and in time her teaching becomes perfunctory or she wears out. Also the vigilance that is needed to keep children moving to her room and from it finally exhausts the principal, who has too many things to look after to have the ungraded room ever uppermost on his mind. Where the principal wants it enough to give it great attention the ungraded room will be a success. It may be resorted to especially in isolated districts, providing for various special needs, but in centers of school population it seems to me that the plan of collecting the retarded children in a central school is better. Those who are deaf, blind, foreign, incorrigible, or of extremely low mentality are sent to central special schools. Where necessary, transportation is provided by the Board, which runs a

conveyance for the blind and for children of low mentality, and supplies street-car tickets for the deaf and the truant school. In addition to these schools, in the city I represent, 176 of those who were *three years behind their grade* but who did not fit in any of the special schools were placed in a central school two years ago under six teachers. They were examined by medical experts—aurists, oculists, neurologists, etc.—a large staff of practitioners volunteering their services. Teachers were selected who seemed adapted to the work. Each class was given manual training and gymnasium every day. The course of study was adapted to their age and interests. In most cases there was no attempt to force or stuff, but the work was done leisurely and thoroly but very concretely and with as frequent reference to the workshop and practical affairs as possible. The attitude of these children toward school has wholly changed in the last two years. Their effort, attendance, and conduct are nearly up to the normal. We are now preparing to enlarge the plant and to establish a central school to be fed by at least a half-dozen schools and numbering three hundred to five hundred retarded children from the second to the fifth grades and give them a four-year industrial course, consisting of household arts, simple toolwork, drawing and applied arithmetic, and such cultural work in English, history, and geography as they are capable of. I believe there are at least 10 per cent. of our children, who, while not belonging in classes for children of decidedly defective mentality, are not going to keep up with normal children without overstimulation and unhealthy pressure. The ordinary curriculum is not adapted to their needs, but a course can be devised for them which will give them the rudiments of an education and make them useful and happy citizens. The advantages of massing them in an auxiliary school are that they can be classified, that a corps of teachers can work together with mutual interests and sympathy, and that they can without great expense be provided with a large amount of manual and physical training. Such a school can serve as a clearing-house, from which children may be sent to the special schools which may better fit their needs, or back to higher grades of the ordinary school if that seems best for them, but a large number of them will probably do better to remain in the industrial school until they go to work. By providing transportation for distant pupils, one school can meet the needs of a large section of a city. In planning new buildings one school can be easily reserved for an auxiliary center.

b) Continuation schools should be provided for those who go to work before they complete the elementary course. Attendance part time in day schools should be compulsory for all such up to the age of sixteen or eighteen. Children who go to work at fourteen have not as a rule fixed habits, right ideals, or trained reason. If the state kept control of these, and provided say eight hours of instruction a week for them they would be worth more to their employers in the end, and would be worth vastly more to themselves. Again I speak from experience. We opened a day class for machine-shop apprentices in August The employers allow the boys four hours a week and pay them for it, and yet they agree that the output of the boys is not diminished, while the spirit of the boys, their ambition, their interest in their work, and their attitude toward their foreman and employer are wonderfully changed for the better.

If all superintendents appreciated the importance of these part-time schools after children go to work, it would not be long before our states, at least in our northern section, provided for them. The advantage of such schools seems in part to be that many retarded children seem to wake up after they go to work, and become interested in their studies, especially in those which are applied to the work they are doing. If control over them is maintained for two years after they start to work it will make a vast difference in their lives.

TOPIC: CHILDREN DIFFER IN MORAL RESPONSIBILITY

I. THE VARIABLE FACTORS IN MORAL RESPONSIBILITY

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(Abridged for the volume of *Proceedings*.)

The recognition of the fact that there are variable factors in the matter of moral responsibility is the first step toward the giving of real justice. There can be no real justice in any scheme which treats all people as possessing the same degree of moral responsibility. An approximation of justice is the best that can be obtained under such conditions.

It is this that draws the sharp distinction between divine justice and justice in our courts. The basal principle of divine justice is that a man "is judged according to that which he hath and not according to that which he hath not." The best that the civil law can do is to announce the principle that "a man is presumed to intend the consequences of his own voluntary act." It is the boast of the human law that it treats all men alike; it is the glory of the divine law that it sees in all men differences. This difference is a necessary one. It is because "man looketh upon the outward appearance, but God looketh upon the heart."

The school in this respect stands midway between the human law and the divine law. This is because the school is partly a civil institution, and partly a divine institution. It cannot afford to overlook either of these sides of its work. While it cannot at any time see all of the heart of any child, it can see more of it than the civil law can; and it is its duty to see as much of it as it can.

When once we recognize the fact that no two of our children are exactly alike in the matter of moral responsibility, the next question that arises is, What makes the difference? What are the variable factors in the case?

The first of the variable factors in the moral responsibility of the child is his age. It is merely a truism to state that children at different ages should be dealt with differently in regard to moral questions, and yet it is a truth which has never been fully grasped in our schools. We constantly see the effort on the one hand to deal with adolescents as if they were small children, and on the other hand, the effort to deal with them as if they were grown people. These courses are alike injurious. The teacher who really wishes to do the best for her children morally must gradually change her point of attack and her method of work from the time the child first enters school until he leaves it.

It should furthermore be emphasized that these changes should be made gradually. There is no such thing as a sharp break in the development of the child. Even the transition from childhood to adolescence is not made in an hour, or a month. Not even the exact year can be definitely stated. That too, varies with individuals. Nevertheless, we sometimes see sharp changes in the method of discipline and in the method of moral treatment of the children. The sharpest of these breaks occurs between the elementary school

and the high school. Another perhaps as great occurs between the high school and the college. It is no wonder that children drop out at these gaps.

The second factor which must be reckoned with in the moral training of children is that of sex. The recognition of this factor is by no means so easy a matter as might be supposed. A hasty generalization to the effect that "boys are bad and girls are good," or, vice versa, will always lead one to error. Crude as such a belief may be, it is a fact that either in the one form or the other it does exist in the minds of a great many people, and that it results in either form in injustice to one or both sexes.

While it must be admitted that no clear-cut line of moral responsibility can be drawn between the sexes, it must also be admitted that a different kind of moral treatment is needed with the sexes. Teachers frequently make the comment that "the boys are better than the girls in some particulars, and the girls are better than the boys in others." There is more philosophy in this remark than might at first be apparent. It implies that more emphasis needs to be laid on certain moral questions with boys and on certain others with girls. There may be a difference of opinion as to whether these differences can best be brought out in separate schools; but there can be no difference of opinion as to the fact that these differences exist, and become more marked as the pupil grows older, and that they should be recognized if any system of moral training is to be effective.

A third of these variable factors is that of nationality. No teacher who has come in contact with any considerable number of pupils of foreign parentage can fail to realize that each nation has its own particular code of morals. It is not necessary to go

> . . . . anywheres east of Suez
> Where the best is like the worst
> Where there ain't no ten commandments.

The thoughtful teacher in our own country observes that the Italians have their own particular code of morals; the Germans another; the Syrians another, and so on through the list. It may be true that the Ten Commandments do not vary the world over, but it is also true that man's interpretation of them does vary largely.

Certain interesting facts in regard to various nationalities are matters of common knowledge among teachers. For instance, teachers are glad to have in their rooms the children of German parentage. A German parent ordinarily impresses upon his child the idea of truthfulness, obedience, and respect for the teacher and for law. It is commonly recognized, also, that Jewish children ordinarily make desirable pupils, from both an intellectual and a moral standpoint. In regard to certain other nationalities, reports are by no means so flattering.

An interesting article or perhaps a book might be written on "The Geographical Distribution of Morality." While it is undoubtedly true that no geographical line could be drawn which would have all the good people on one

side of it, and all the bad on the other, it is nevertheless true that moral ideals and hence moral responsibility vary greatly, even in different parts of our own country. If the article should be written it would doubtless be found that no one region has all the advantages or all the disadvantages in moral matters. For instance, the region where they burned witches was not the region where slavery flourished.

To show the practical bearing of this upon the question of schoolroom morals, it may be pointed out that there is a large section of the United States today in which the average boy is taught in his home, and in society generally, that it is his actual duty to resent the imputation of a lie by a blow. There are other sections where he is taught that a blow under such conditions, while not unnatural, would be wrong and highly regrettable. If it should be said that this difference shows a broad general difference in the moral sensibility of the two regions, it is at least worthy of notice that in a large part of the region where boys are taught that the imputation of a lie ought to be resented by a blow, they are also taught to class a high protective tariff in the same category with highway robbery, differing from it chiefly in the fact that it is safer. It will be apparent to any unprejudiced observer that the moral sensibility of the people of one section of the country may be comparatively obtuse in regard to some one moral question, and yet may be quite acute in regard to others. Any teacher who, even with the best of intentions in regard to moral training, fails to take into consideration the moral ideas of the racial heritage and geographical environments of her pupils will find her work necessarily ineffective.

We recognize more or less fully the necessity of having our textbooks graded in difficulty to suit the intellectual capacity of the children. It is strange that we fail so largely to grasp the idea of gradation to suit the moral capacity even of whole groups of children. The new style of school readers with its literary flavor may be admirably suited to the moral needs of certain children, or of certain schools; but the old-style reader—such as the old McGuffey that you and I used to study when we were children—with its emphasis on character-building was undoubtedly better suited to the needs of certain other great groups of children. A twentieth-century reader may be all right for twentieth-century children; but there are many children who still live morally in the nineteenth century, and for their moral training at least the nineteenth-century reader is better adapted.

It need hardly be stated that one of the greatest of all causes of difference in moral responsibility in the child is the difference in training he has received in his out-of-school environment. His life at home and on the street is perhaps the strongest of all the forces that enter into the making of his moral ideals. Any scheme of education is fatally short-sighted if it proceeds on the supposition that the school life is the whole educational force. So long as homes are different children will be different. The moral training received in the home affects the child's moral capacity just as the intellectual training

affects his mental capacity. To expect the same amount of moral responsiveness from the child reared among vicious surroundings that you would expect from the child in a Christian home would be as unreasonable as to expect the same degree of appreciation of a great piece of literature from an illiterate laborer as from a university scholar.

No scheme of education is complete which does not take into consideration the home life of the child. No educational study is adequate which does not look into the child's out-of-school conditions. This study can of course be made in many different ways. One of the greatest works of the mothers' club is to make it possible for the teacher to understand what the home influence is. Only when this understanding is gained can any rational moral training be given.

Increased moral responsiveness on the part of the child means increased responsibility to the teacher, and this responsibility is not always wisely carried. If it be true that a good home environment adds to the child's moral capacity, it follows that the best moral training ought to be possible when the children have good environments out of school. It does not appear, however, that this is always the case. In fact, it sometimes appears that the very best work in moral training is being done by our schools in districts where the home environment is worst. This speaks well for the workers there, but poorly for the rest of us. It is true that "to whom little has been given, of him little shall be required": but it is also true that "to whom much has been given, of him much shall be required."

Close akin to the influence of the home and the street as variable factors in the moral responsibility of children, may be mentioned the influence of the church, the Sunday school, and other organized agencies for moral and spiritual work. The active results of these agencies in forming the child's character is a question on which teachers differ widely. This very uncertainty tells something. The best friends and most active workers in Sunday-school matters are bending all their energies to make the training more effective. The comparatively loose organization and system of teaching used in the average Sunday school make it wonderful that the Sunday school has accomplished as much as it has. There can be no doubt that with all its shortcomings, the Sunday school is growing to be more and more an effective factor in the moral development of the child.

Still another of the variable factors in moral responsibility is the child's physical condition. Not only is the body at the basis of intellectual development, but it is at the basis of moral power as well. The child whose nerves are wrecked, as a result either of disease or of bad habits, is not likely to develop as much moral stamina as the child of sound body. The removal of adenoid growths frequently gives the child a degree of moral responsiveness which the teacher would formerly have deemed impossible. Every teacher has known cases in which utter lack of moral responsibility was the result merely of excessive cigarette smoking. In fact, in many instances, the "bad boy"

could be made a good boy morally if he could only be made a good boy physically.

And it is one of the triumphs of modern education that in many instances this very thing can be done. No greater scientific work is being done in all the world today than that being done by Dr. Lightner Witmer, Dr. Groszmann, and their colaborers in working over physically certain unfortunate children so that they may have a chance, both mentally and morally. This great work should be taken up in so far as it may be in every large school system in our country. While it may be impossible to achieve such triumphs as those of these men, it is at least possible in every school system for us to give more mental and moral capacity to certain unfortunate children by giving more attention to their physical defects. No possible line of modern school work could be greater, or more in accord with the spirit of the One who said, "Inasmuch as ye have done it unto one of the least of these my brethren, ye have done it unto me."

There remains yet at least one more element which should be considered in the matter of moral responsibility. This may be called individual temperament. It is the irreducible minimum which remains after all allowance has been made for all extraneous influences. One of the variable elements in temperament is that of will. After all is said and done, we cannot escape the conclusion that every human being, whether child or adult, is allowed considerable range of free choice as to right and wrong. He can do right or he can do wrong. It is for him to decide.

It is just at this point that one of the dangers of modern child study comes in. We have found out certain well-marked tendencies on the part of the child. If, however, we mistake these tendencies for inevitable facts, our system of education is greatly weakened.

It is all right for us to believe that the boy at a certain stage in his existence has a tendency to be a savage. It is all wrong, however, if we assume that at this stage he must necessarily do unkind and cruel things. It is even worse if we teach him that he is expected, at this time, to do these things. There can be no moral training without moral responsibility, and moral accountability. Not to expect good things from a child—or from a man—is one of the surest ways not to obtain them. We do well to observe carefully the tendencies in children as pointed out by child study, but we do wrong if we teach that these tendencies are too strong to be overcome. We should be careful that the doctrine of fatalism, which has disappeared from our philosophy, and is disappearing from our theology, does not reappear in our system of education. Children are no more thieves by compulsion than men are. They need to be taught that it is not with our stars, but with ourselves, that we are underlings.

These, then, are at least a few of the variable factors entering into the moral responsibility of children: age, sex, nationality, geographical environment, home and street environment, moral and religious training, physiological constitution, and original temperament.

It is the duty of the teacher to study carefully the effect of each one of these upon the moral capacity of each child in her room. If she is interested in increasing his moral capacity, it is her duty to find a task suited to the capacity of each child under all of the conditions.

In conclusion, may I be allowed to suggest that it must be a task that is to be done, not merely talked about? Moral training can no more be accomplished merely by moral lectures than can mental or physical training be given to children by lectures on mental or physical subjects.

The general plan of moral training in our schools today is different from that in the schools of yesterday. The moral training of tomorrow will doubtless be different from that of today.

The school of yesterday did things to the children; the school of today does things for the children; the school of tomorrow will do things with the children.

The great question in morals asked by the teacher of yesterday was, "What shall I do to the boy who has done something wrong?" The question being asked by the teacher of today is, "What can I do for the moral welfare of the children under my charge?" The question that will be asked by the teacher of tomorrow will be, "How can I get the children to do such deeds as will contribute to their own moral development, to the welfare of others, and to the service of God and humanity?"

II. DISCIPLINE AS AFFECTED BY DIFFERENCES IN MORAL RESPONSIBILITY

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Nothing else in school life compares in importance with the discipline of the school. There is nothing that exerts so large an influence upon the school or upon the children's character. The subjects of arithmetic, geography, and grammar are important and count in the future life of the child, but essential as these subjects are they are not comparable with the discipline of the school which he attends. We are all agreed that children must learn to read and write, but these are not the most influential elements in education. Character must be made the groundwork, the foundation in any plan of education. Of infinitely more importance than drawing, music, or spelling is the fact that children should be so trained that they leave school disciplined in the love of manliness and truth. They should go forth waving the flag of good citizenship. There must be authority with obedience behind it, authority from both within and without. I suppose in the best-governed schools there is a combination of both methods. Certainly the discipline of a school is growing less autocratic year by year. With equal certainty we know it is more attractive to the pupils. The great problem of school government, however, is to train the boy and girl so that when they leave the school and go out into the world they go forth as honest, upright, decent citizens. The question of school discipline therefore must be considered as a moral one.

We are putting things enough into the head of the child or endeavoring to, at least, but the pupil's heart must be in the right place. It cannot go wholly wrong. Otherwise our scheme of education has a tendency for evil. We must not educate the head while the heart remains untouched. The question is not axiomatic that the development of the intellect carries with it a moral growth or any distinct uplift of one's better nature. In fact a person is not educated when his better half is left untrained or simply veneered through our educational system. His moral nature must be touched. With the development of the intellect alone by far the poorer half of the child has been developed. In the final outcome of any scheme of education there must result a moral fiber shown in the child's personality and character.

Many teachers are autocrats in their plan of discipline. This is noticeable in every exercise of the school. Discipline to be successful and work for the best interests of the child must be based upon a respect for the teacher and come involuntarily, almost spontaneously. There must be a spirit of kindly co-operation between both parties in the school—the teacher and the pupil. When this is fairly accomplished school work should be largely pleasure and the discipline of the school not a difficult task.

We hear much about the personal influence of the teacher, her personality. This is trite enough. The graces of person, her manner of speech, her enthusiasm—these are unquestionably strong factors bearing favorably on authority and discipline. The discipline of the school is a large part of the success of the teacher. Broad scholarship is no guarantee of this success. The teacher may have many excellent qualities, but thru her power as a disciplinarian she is rated either a success or a failure. We expect all normal pupils to respond to sensible discipline, a discipline that is steady, firm, based on a thoro understanding between teacher and pupil. Such a scheme of discipline will take into consideration the varied but rational interests of the children. All children must obey. They need oversight, guidance in the right direction. If these do not prevail lawlessness is the result. There must be a strong public opinion in the school in favor of discipline of the right sort. With a close sympathy between pupil and teacher, and plenty of steady, honest work, the question of discipline is solved for the great majority of pupils.

We may have one or more pupils, not in every room but in every building, who make themselves nuisances. They may be persistently disobedient, impudent, or impertinent to their teachers. Usually they are boys over whom the parents have no control. They do not obey. They break the laws of the home, the school, and the city. There is the pupil with the defiant attitude. It is his right to be controlled, and distinctly a crime against him and against society to allow him to grow up unregulated. Once in a while we find a pupil who seems entirely vicious. Ordinary forms of government in the hands of the ordinary teacher are defied. He annoys and is against everything in the form of discipline. Apparently his constant aim is to disturb the school. There is open defiance of authority, contrary to every school interest. Of

course if one of these boys can be brought into correct habits of living in the school the teacher has certainly won a great victory, but he must come into touch with the spirit of order and discipline. I think we all have to admit that now and then we find a pupil of so defiant an attitude that fear of punishment only will keep him in line long enough to allow the teacher to develop a better spirit. But if he cannot be won over he should not be allowed to defy the school and its discipline. I do not believe in corporal punishment. Our natural feelings of humanity are against violence, against any form of discipline thru assault and battery. Still, it should not be made impossible but held in reserve for the most serious and stubborn cases of disobedient and defiant pupils; for those who would otherwise break down the discipline of the school and need the attention of the courts. In choosing between corporal punishment and suspending a boy from school it occurs to me that the former is less injurious to the future life of the boy. No one questions that the highest motives should be employed, and in well-disciplined schools, with teachers of broad common-sense and large understanding, it is seldom resorted to. Probably in ninety-nine cases out of a hundred even in these extreme cases mentioned above there is some better way that will touch these pupils. But a little spanking is preferable to disorder and lawlessness, better for the boy and better for the school. In a very, very few cases it acts favorably toward discipline. To some boys it certainly has been a blessing. They themselves acknowledged it later in life. For the most part kindness, firmness, and self-control will produce good discipline. In general terms a teacher may be unfit who must use the rod. But after other means have been tried to the utmost, rather than the truant school or expulsion a little corporal punishment is less injurious.

The truant pupil must be considered in any scheme of discipline. In the great majority of cases truancy may be traced to lack of parental control. The parents mean well but do nothing to encourage the boy in regular attendance at school. The atmosphere of the home is dead. The father usually is absorbed in his business or tired out from his day's work in the shop. He has neither the time nor the inclination for the care of the children or any close companionship with them. The pressure and burden of work necessary for the support of the family make him neglect his choicest possessions. Too often we may trace truancy to the inefficient teacher. It is not always the dull pupil who plays the truant game. Of course the backward pupil loses interest day by day thru constant failure to keep up with the class, but the bright boy has plenty of time left for mischief which in his own judgment he can use to better advantage outside of school. In either case the school becomes a prison and both classes of pupils are absent with more or less regularity. Most cases of pupils coming under the truant list are preventable. They become irregular in their school work through no fault of their own. Usually common-sense and justice exercised thru some of the plans of special help and supervision of study will put pupils of this class into habits of respect for authority.

It is not so very long ago that we regarded the intellectually, as well as the morally, defective child without consideration in the scheme of school life. We now realize to what a state of efficiency these children may be trained. In our state institutions some of the worst cases of idiocy are cured, while many of the milder cases are much improved even in the public schools. Statistics show that this class of children is rapidly on the increase. Twenty years ago the number was estimated at about one-fifth of 1 per cent. This rate is said to have doubled in two decades, the children embracing every grade of moral responsibility. We are doing more and more for these children, but still more must be done. In every scheme of discipline these unfortunates should be recognized. Not with harshness but with sympathy they must be treated, but must, however, be made efficient and moral. Uniform discipline cannot touch them all.

It is said that the delinquent child of today comes from the city and town. At least 98 per cent. of those noted in some of our reformatories are the product of city life. We notice the increase in juvenile depravity not only in irregularities of conduct but also in those more serious crimes not noted fifteen years ago. Our plan of school government must go down to these children. The safety of the state demands it. Great things are being done by the school for intellectual and industrial life. We should accomplish much along moral lines.

Any scheme of discipline that does not train the child morally, as a part of its work, must be a failure. Of course we all contend that the ordinary school government is productive of moral training; that the personal influence of the teacher is indirect but forcible; that literature and history are sure to have lasting and beneficial effects upon the character of the child. We do not however make moral training the important work of the school. Reading, spelling, geography, and arithmetic are given regularly five days in a week. These are important things. The pupils know this. They also know that subjects that are not considered at all or are mentioned but slyly and indirectly must be rather unimportant.

If our plan of government and training does not take into account the principles of morality, will the children value it as a factor of any importance in daily life? We seem to be very proud of this indirect moral training, but it is not as thoro as it ought to be. It is not frequent, systematic, or definite. Certainly the boys who smoke and gamble, swear and steal, and who do other things that are bad, need thoro training in the principles of decent living. We are practically unanimous that the schools should train for right conduct. Naturally as teachers we blame the home, the church, the saloon, and the press. They in turn blame us. But it doesn't improve the matter for us to say "you're another." The boy's training in school makes him either socially fit or socially unfit. He becomes either a good citizen or he does not. The school is largely responsible for this and the teachers should be his trainers and he should be drilled at the proper time.

We find different standards of conduct everywhere amongst different classes of pupils. They have their own problems, but they all should have training in good conduct. Should it have a place as part of the school discipline, or be sandwiched in with the various exercises of the day? Ought it not to be on a par with, and have an equal chance with, spelling, arithmetic, or grammar? The incidental method is hallowed by custom and has precedent behind it, but is it adequate? The public schools must become the great institution in character-building. The tone of the school, its general plan and methods of management, must show the highest regard for moral principles. It must establish obedience, regard for others, right habits which build character. Ordinarily the child respects the right and the good, and our discipline is based upon such a feeling of the child. We presume an orderly school, subject to the will of the teacher, but the scheme of discipline must have in mind the pupil. The aim is in the direction of virtue, the developing of moral strength. Children are not alike morally, but the schools must take them as they are found, make men and women of them. Of equal importance with power to read and write is a high conception of right and wrong. In spite of the dishonesty in industrial, commercial, and political life these virtues have high place in public regard. Then why should they not be cultivated by every means at our command? Talking will not produce good conduct. The pupil must see and feel it in the school life. It must be brought about thru daily and yearly training. Or does this training avail nothing? Have we entirely discarded the doctrine of formal discipline? Has it no value in the general training of the schoolroom? Is it useless to insist upon obedience, or fruitless to endeavor to form habits of honesty and integrity? In the light of this doctrine do habits apply only to situations in which they are formed? If this is true our discipline would become useless. If these habits formed in school do not become part of the individual and make for law and citizenship, then discipline counts for nothing in developing obedience and self-control. If it is true that practical tests of the doctrine of formal discipline have everywhere failed, then our training toward good citizenship amounts to nothing except under parallel situations. I believe, however, that we are what we are thru force of habit, that the virtues upon which good citizenship rests are formed largely in school. Honesty, uprightness, self-control are taught by example until a habit is formed. Every scheme of discipline stands for these virtues thru a continual respect for authority.

The discipline of the school for all classes of pupils should impress upon the children that they share not only in the duties but in the responsibility of their fellows. Emphasis should be laid upon their own rights and also upon the privileges of others. It occurs to me that thru the discipline of school government there may be a stronger public sentiment in favor of law and order. With self-government in the upper grades of the grammar schools the whole control might be made easy. Self-government gives the pupil a feeling of responsibility. This in itself is healthful and strengthening. Pupils

feel that they are citizens of the school and that the reputation of the school is as much for them as for the teacher.

The ordinary boy or girl in school notices the violation of rules every day and the milder forms of misconduct going on around him but he is not concerned with the government of the school and it is not his duty to interfere. He does not dare to report these offenses. If he had disposition to do so he would be branded as a spy. Where he becomes part of the governing plan and is responsible for the order of the school the situation is different, as discipline is maintained by the efforts of all.

For all classes of pupils in the lower grades the Brownlee Plan contains within it the elements of a good scheme of discipline. Many of its features are interesting. There are new things and those that are modified. It has a simple plan with an excellent purpose. The scheme is based upon what we might call a word-a-month plan. Each month a word is made prominent, such as kindness, honesty, or self-control, and every day thru story, composition, or other work reference is made to this word. These words are made prominent thru the eye on banner or blackboard for the purpose of awakening thought and to arouse an impulse in lines of proper conduct. By means of this plan of school government improvement has been made, not temporary but permanent, in social and moral ways. Better attention to the laws of good health, obedience in the home and school with increased regard for the rights of others have been noted. Opportunities are given for the working-out of the children's best nature and on the whole it develops a spirit of co-operation. Among the forms of self-government that have received some attention is that of the school city. This form of school discipline has been organized in several of our largest cities. The idea, however, does not seem to spread, in spite of the fact that distinguished educators have expressed their heartiest approval of the system. School principals who have tried the system speak heartily in its favor. In many instances it has been successful beyond the sanguine expectations of its friends. The school-city idea is in an experimental stage, but it certainly has vital elements that are fundamental in character. New and important elements are brought into school discipline. By this plan moral responsibility has been stimulated. The school city has been the means of developing character. Pupils instead of blindly obeying the commands of others are led to think for themselves. At the same time the children are trained in the practice of citizenship.

The plan of the school city has two aims. First, to develop in the pupil self-control and responsibility, and second, to give plenty of practice in the forms of government. The phase of this form of government is emphasized upon the character side while the practice of government is a secondary aim. As far as we may judge this entire plan is strong in the direction of moral training. A healthy school spirit is formed by placing a part of the control in the hands of the pupils where it belongs and in giving them proper guidance.

The idea of the school city is to impress every child with his duty as a voter and thru habit coming from daily drill make him self-governing. Children thus disciplined, we are told, become citizens alive to the questions of the hour, responsible and independent. In the general plan of discipline the government is of course autocratic. The teacher gives the command, the pupils obey. Their purpose is to be ruled but to have no part in the ruling power.

Thru this self-government, pupils discriminate between right and wrong and by developing the will to do right become subject to the control of external government. In theory at least it is better to be led to good behavior thru rules that they themselves have made, than by forced submission to authority. If it develops ideals of this kind, self-government should then command attention.

METHODS OF REDUCING MORAL TRUTHS TO PRACTICE

HORACE H. CUMMINGS, SUPERINTENDENT OF LATTER DAY SAINTS SCHOOLS, SALT LAKE CITY, UTAH

In considering methods of moral training it should be borne in mind that there is no royal road to morality, but desirable results in this line of effort are won only with that labor and care that excellence always exacts. And while we appreciate the work of those giant reformers of the youth-gone-wrong who have made Denver, Cleveland, and New York more famous, we are sure that here as in many other places "an ounce of preventative is worth a pound of cure." Children ought not to be allowed to go wrong, and the consideration of methods to train them in the right claims our best thought as teachers.

Of what value to the individual or the state is a well-trained intellect when yoked with a corrupt heart? It but adds to the wolf the qualities of the fox. Yet our jails are filled with educated criminals, and too many tramps are graduates of our schools. If we may believe the newspapers or even our lawmakers when discussing remedial legislation we must conclude that the honesty, integrity, and patriotism of colonial times have all been swallowed up in the wickedness of trusts, food adulteration, graft, and political corruption of many kinds. Recently a prominent New York judge soberly declared that 40 per cent. of the cost of all public improvements goes for graft. Estimates must include this item as much as that of labor, lumber, or other materials.

Whether the world is growing better or worse, however, is not material to the purposes of this paper. We all know there is much need for more effectual moral training. The limits of this paper preclude any but the briefest reference to the psychology involved in moral training, but it may aid in placing values upon methods suggested as well as revealing the strong and the weak points in forces that have been depended upon to meet this need.

The problem is largely how to develop the will to do right and furnish conditions to reduce moral instructions to actions.

In the field of instincts we will consider

1. *Secretiveness.*—Practice, and teach the pupils how to practice, keeping secret all evil reports of the mote in the brother's eye; not to boast of their own virtues, not even letting "the left hand know what the right hand doeth" when they render aid to another.

2. *Envy.*—Direct envy toward the purest and most excellent character, and show that what one is envious of in such a case can only be attained by substituting a perfect love for selfish envy.

3. *Anger.*—Teach self-control, and the use of righteous indignation as in the case of cruelty to animals, injustice to weaker pupils, and proper resistance to various forms of oppression.

4. *Fear.*—Fear to do anything unbecoming a man—one who does is never safe. Have courage to face the unpleasant or dangerous at the call of duty. By furnishing occasions for responses on students' part, lead them to taste and appreciate the sweets of such a course.

5. *Constructiveness.*—Manual training, domestic arts, and laboratory work should be provided to direct and develop this instinct.

6. *Leadership.*—Supply responsible positions for students as monitors, and officers in student organizations, athletic clubs, etc., the proper discharge of whose duties will promote the general welfare.

7. *Imitation* is perhaps the most important of the instincts. How many thousand things a child learns by imitation which he never would learn if he had to wait until they were taught him! This faculty does not wait on judgment. The child does what he sees others do with little or no conception of what it means to him. Hence only persons of the highest moral attributes should be engaged as teachers. We should be in truth what we want our pupils to become. Exclude teachers who smoke, use liquor, profane, or gamble, or who are insincere, irreverent, or untruthful, if we would not have our children become like unto them. Surround the children with the purest atmosphere possible. Demonstrate in your lives that you love good and hate evil. Enter enthusiastically into the study of ideal characters; impress the ideal and seek opportunity to apply it in the school, on the campus, in the home, and in the social circle. Chiefly thru this instinct does the child become "the product of his environment."

Remark.—Of the four hundred teachers in the schools with which I have the honor to be connected, three-fourths of whom are males, not one smokes; as a consequence not 1 per cent. of the boys smoke after attending a short time.

In the field of habit the psychological law is very definite. Frequent repetitions of an act create a tendency to its automatic recurrence. Advantage should be taken of every opportunity to get the pupil to perform moral acts and form moral conclusions and determinations. Here also "we learn to do by doing." The good and true in history, literature, and current events should be discovered by the pupils and applied as far as possible in their lives. Their attitude and conduct toward lessons, teachers, and classmates should conform to correct principles. Study their habits outside of school. Gain their confidence and they will confide in you their secrets. Much sin is due to ignorance, and many a boy's life has been changed for the better by a heart-to-heart talk with a wise, earnest teacher.

In the field of impulse action follows ideation immediately and without deliberation, hence the greater danger that the ideas and thoughts become unwholesome and result immediately in bad acts. The law of teaching here is: Let bad impulses be followed invariably by pain and unpleasant results.

Let good impulses bring satisfaction. This will eliminate the bad and establish the good as *habits*. For impulsive students select studies that require reflection, careful observation, and deliberation, such as mathematics, experimental physics and chemistry, drawing from life or model, etc. Let them be assigned to subordinate positions in school and social events which require deliberation and well-organized effort. They may take part in athletic sports and contests whose rules require impulses to be restrained and conduct controlled.

Leaving the racial or hereditary elements let us glance a moment over the field of deliberation and choice. We here enter the domain of the personal in life, the negative side of which is self-control and the positive side self-expression. In deliberation we estimate impulses, motives, incentives, and their consequences. In choice we identify self with one and thereby exclude the others. The moral problem for the teacher here is, first, to give a knowledge of the right, and second, to secure a disposition to do the right.

The gravest mistakes in moral training have occurred in efforts to solve this problem. Formal moral instructions alone can never accomplish more than the first part, leaving the result—like faith without works—dead. To teach a child continuously what is right without securing in some way corresponding connections with right conduct, is to make that child oblivious to such relations, and stifle within him the impulse to put into practice good teachings. "He that knoweth to do good and doeth it not, to him is it sin." Between knowing and doing there is a certain action and reaction. Each makes the other more perfect; neither alone is complete.

Horne, in his *Psychological Principles of Education*, says:

> The correct order of educating religiously is, first the action and feeling, then the idea and thought. The child is primarily a doer, not a thinker. He abides in the region of the concrete, not the abstract. Children can do right and so feel rightly, before they can think rightly. It is thru obedience to the commands of God and feeling our dependence upon God that children come to think rightly about God. The same principle also holds true with adults: Whoever is willing to do the will of God, shall know of the doctrine. The trouble at this point is that in religious education as in all types of education we have begun with children on the intellectual, abstract, passive side of life rather than on the practical, concrete, and active side.

Just as we know the true significance of things by the *use* to which they are put, so we learn the significance of moral principles thru our acts which give rise to them. To love is to know the full meaning of love, which no oral or written description could impart. To pray fervently is to know the sweetness of intimate communion with our Father. To give is to know the joys of giving. To do unto others as we would that they should do to us is to know the doctrine to be divine. Happily the course necessary to get the knowledge also creates a desire to put it into practice and thus the "yoke becomes easy and the burden light."

The home, the church, and the school are the three great forces which society depends upon for moral and religious results. Let us glance at their

present conditions and apply some of the principles of moral training to their work.

1. *The home.*—In a paper by the chairman of the International Committee on Moral Training, read at this gathering a year ago, it was stated that 96 per cent. of the teachers in more than a thousand schools of this country "reported as finding difficulty in the development of character by reason of improper home training."

The modifications in home life have been so great and so rapid during recent years that methods of moral training there have not kept pace with them, and are now inadequate to meet the needs and conditions in most homes. When each family produced most of what it consumed each member had some task which contributed to the welfare of all. Family ties and home influences then were strong. Morning and evening prayer, Bible-reading, and practical exhortations to right conduct were common exercises around the family hearth. Now the factory, shop, department store, and office separate the family after a hasty breakfast, too early, perhaps, for the younger members to join. Conditions are no more favorable for family devotional exercises at the irregular hours of reassembling in the evening. Each worker is paid in money which he spends in his own way. Even paying board at home, when work can be had without going abroad, is not like working in and for the home. The demands of business upon the father and of society upon the mother divert their interest in a measure from the home, with the result that the number of children, as well as the quality and value of parental training, is rapidly diminishing. Modern society is in such a whirl of business and work and fashion and pleasure that home training receives too little attention.

Return to those primitive conditions is impossible, even if it were desirable. We must find adequate substitutes for the best they contained and adapt them to present needs. With this object in view there were established in Ogden, Utah, about four years ago, several organizations calling themselves Parents' Classes. Once a week the parents would meet and under the guidance of the best supervisor available would discuss the various practical problems of home life confronting them. The movement quickly became popular. Parents of all classes joined. The educated and wealthy deliberated with the poor and unlearned, and each profited by the knowledge and experience of the other. Such topics as "How to Promote Truthfulness," "Beautifying the Home," "Proper Amusements," "Economy in the Home," "Proper Food for Children," "Proper Clothing for Children," "Politeness at Home," "How to Get Children to Observe Proper Hours," and many others were considered, and each member of the class was expected to express a thought on each subject. At the close of each meeting, or when the consideration of a topic was concluded, a resolution to put into effect the results of the deliberations was usually passed, thus securing a united effort of the parents in the neighborhood.

A thousand such classes are now in operation, with twenty thousand members enrolled and an average attendance of 67 per cent., and the work is growing rapidly. Among many good results curfew laws are generally observed; there is less work for juvenile courts; in many places parents have set aside one night a week called "home night" to spend with their families in thoughtfully prepared ways to promote happiness and morality. Committees have prepared courses of study, suggested books of reference, and in other ways guided the movement.

2. *The church*, whose special work is spiritual, has also failed to keep up with the times. The authority and influence of its ministers are not what they once were: and the Bible itself, chiefly thru disuse, but partly no doubt thru attacks from higher criticism and other sources, has lost much of its power. Sunday theaters and other amusements now draw the crowds that should attend church.

In the light of modern pedagogy it seems to me that one great mistake of most churches is that the minister is the chief worker and therefore the principal one benefited. Surely there is enough work for all to do, and why should not all be equipped and put to work?

The smallest complete division of the church in which I was reared is called a *ward* and contains perhaps five hundred souls on an average. It requires 162 persons to officer properly all the organizations and departments of a ward and to do the church work in it. Each organization has a definite and useful work to do (which cannot be described here) and in the natural rotation in office every active member carries a share of responsibility and work.

Neither is it a blessing to a church for one or two of its wealthy and generous members to bear its whole financial burdens. "Where the treasure is, there will be the heart also." The widow's mite did the widow more good no doubt than it did anyone else. All the members should be induced to contribute in proportion to their means, and their interest in the church would increase accordingly.

3. *The school* is no longer opened with any form of devotional exercises. Many teachers as well as pupils I suspect never pray. No religious instructions can be given lest they become sectarian. Even Christmas exercises are fast becoming Christless. Sometimes the teacher is told to teach morality; but there being no clear line of demarkation between that and religion, and, already distracted with the multitude of other subjects to be taught, this vital one he woefully neglects.

To supplement the work of the public schools with more thoro moral and religious training—for the two cannot well be separated—a denominational movement was started some years ago in the West. A corps of volunteer teachers meet the children after their school work is done and invite them to attend a religion class held in some convenient place. Here they are trained in the principles of morality and religion. In many places the work is a great success; in others, quite indifferent, depending largely upon the ability and

faithfulness of the instructors, most of whom are not trained teachers. The results, however, on the whole have induced parents of various sectarian affiliations to have their children attend, until the enrollment now is about 40,000.

The differentiation that has grown up amongst us as to the religious and the secular in education is most unfortunate. I love to think that all the principles of education are both religious and secular. Not one of them could be spared from society or from the church. Either would suffer irreparable loss if deprived of training in language, mathematics, or science, as it would without truthfulness, charity, or virtue. The multiplication table is as essential to salvation as is faith or baptism. As well might we think of an unreformed thief in the kingdom of heaven as an uninstructed ignoramus. The so-called religious cannot say to the so-called secular: "We have no need of thee." "Be ye perfect even as your Father in heaven is perfect" is the task assigned us, and we must not only acquire the divine attributes of his heart, but attain unto the knowledge that is in him.

The child is a unit and should develop as a unit. All his powers and attributes must be trained in proper season or the product will be unbalanced and unsatisfactory if not positively dangerous. Neither the head, the hand, nor the heart should be neglected. The school has long done excellent work in training the mind. It is now extending its power to train the hand. Let us hope that our religious fears and jealousies will in time melt away sufficiently to permit the school to exert its mighty power and achieve its crowning success, a more perfect training of the heart.

IN MEMORIAM—WILLIAM TORREY HARRIS

I. BY GEORGE P. BROWN, BLOOMINGTON, ILL.[1]

(READ BY JOHN W. COOK, DE KALB, ILL., WITH INTRODUCTION)

INTRODUCTION BY JOHN W. COOK

This paper embodies what the author wished to say about Dr. Harris the man, and the influence of his personality and characteristic mode of thought on elementary education. To this the author had planned to add some description of the work of Dr. Harris as principal and superintendent of schools, and as a leader in the discussion of education. The stimulation and molding influence of this work as it became a part of the growing organization of elementary education offered an interesting opportunity for description to one who was taking part in that organization, and was himself most vitally stirred by the influence of Dr. Harris. This part of the plan for the present paper was only referred to in conversation with a few friends, and no notes from which to give it expression are available.

Dr. William Torrey Harris was born in 1836 and passed on to another plane of being November 5, 1909, in the seventy-fourth year of his age. His purpose in life was the promotion of the education of mankind. He entered

[1] Mr. George P. Brown, who prepared the following tribute to Dr. Harris, died February 1, 1910.

upon the active pursuit of this purpose in St. Louis in 1857 as principal of an elementary school, and served twenty-three successive years as teacher and as director of the instruction of the children in the elementary and secondary schools of that city. During this period he was studying and practicing in another field of education, when he sought to steady his own and other men's view of life, and help them to a rational view of the world. These results are embodied in the *Journal of Speculative Philosophy*.

It is my present privilege and is made my duty to speak on this occasion of the influence of Dr. Harris in promoting the school education of children, and in steadying the thinking of the teachers, thru a very unsteady period in the evolution of education in our country.

Previous to his advent as leader those at the head of the city school systems were groping their way in fitting the teaching to the different grades of pupils, by arranging the material to be taught and getting books published to fit this arrangement. The conviction was dawning that little boys and girls were not little men and women. But it was only dawning, and the commanding purpose of the teaching was to lodge in the memories of the children the lessons assigned. It sought to fill the mind with knowledge for future use.

I have always thought that it was the great good-fortune of the Mississippi Valley that Dr. Harris came early into contact with Henry C. Brockmeyer. Thru their intercourse it was revealed to Dr. Harris that there was need of a better-defined purpose of school education. He began the study of this problem by asking and answering the question why the common-school studies have become the studies in our common schools. They are the elements of the knowledge of nature which man has been impelled by his spiritual hunger to know, and of the social experiences of the race that have made our civilization. These he called the windows of the soul thru which one could come to know nature, and thru which he could come to know himself and his fellow-men. To know nature and to know man was the commanding purpose of education. To the average schoolmaster of that day who has now arrived at his threescore years and ten this was a revelation of the dignity of his vocation beyond anything he had formerly conceived.

The commanding purpose of life is that man know himself. To do this he must know himself as he has come down through the ages in the stream of evolution in which in every stage of his progress he was striving to look himself in the face, and after he had reached that stage, his aim has been toward a deeper and broader knowledge of this objective self which the attainment of self-consciousness had revealed to him. Self-consciousness by which he knows himself as object and as subject—to know this with what it involves is to know God and the world.

It was this consciousness that made him repeat so often that it was all-important that a teacher should have an inspiring and rational view of the world, for it was his view of the world that he taught, along with the branches of learning, however unconscious of it he might be, or however much he might try to hide his conviction.

I know that this is denied by, perhaps, a majority of thoughtful teachers, but they have not the point of view of Dr. Harris at which he arrived thru the study of the German philosophy of three-quarters of a century ago.

Having clarified his own thought by this discipline he proceeded to make application of it to the work of elementary and secondary education. To prepare the children to know their own generation, and so *live* efficiently therein, they must know the experience of the generations that made it what it is: it must be known in its history. This history is epitomized in the branches of knowledge taught in the elementary schools. The experience of the race in gaining a knowledge of inorganic nature is recorded in mathematics; its mastery of organic nature is recorded in biological science; the experience of these generations in the evolution of life in the social order is incarnated in language; art and the arts reveal to us what the race has achieved in the world as beautiful and useful; these indicate the five avenues along which the race has marched, and the school is established to give the child a general survey of the route and something of the experience of his progenitors as their own preparation for looking at life from their shoulders. Each of these routes has a literature enormous in quantity and of inestimable value in quality, but thru it we survey the entire civilization of the world from primitive man to the present time.

I have been told that another route has been discovered and a sixth window must be opened for the human soul—that of industrial training; but if a sixth, why not ten or twenty if the school is to lead henceforth to the Temple of Mammon? To that goal the way is broad and the roads are many.

This survey of the educational route by Dr. Harris will certainly steady the practice of the leaders of educational theory and practice for generations to come.

Dr. Harris had the noble ambition of leading thoughtful men and women, and especially thoughtful teachers, to that view of the world which Plato taught in Athens as philosophy, and which Jesus of Nazareth taught in Palestine as religion; in the philosophy of the former an intellectual view of the world led on to loving kindness as the rule of life; and in the religion of Jesus a heart view of the world as boundless love led on to a rational philosophy. He saw in Herbert Spencer a fascinating apostle of another view of the world which eliminated reason and substituted reasoning; reason—the soul of the universe revealed thru insight; and reasoning—the processes of logical thinking to a conclusion from data furnished by the world of nature. So important did he think it to be to make known to the American people and especially to the schools and universities the abstract and unstable foundations of Spencer's philosophy, that, as I have understood, he started his *Journal of Speculative Philosophy* primarily to counteract its influence and show the error of attempting to build a human institution upon such a foundation of sand. I have had no direct statement from him which enables me to vouch for the truth of this, but it is consistent with his determined purpose as made manifest in his life. One only needs to read again the leading article in the first number

of the *Journal of Speculative Philosophy* to find evidence that this legend, like all legends that live, is founded upon fact. This *Journal* was published, first, as a quarterly, and later, at such times as material accumulated, until its editor became National Commissioner of Education. That first article in the first number foretold the conflict in education between the physical and the psychical aims that are now battling for control in the education of the children as never before. There is much talk about a new education and new religion, which shall work in harmony with modern science. Dr. Harris has stood like a stone wall for that practice in teaching that will best educate the child. This, he has always held, will ever prove to be the child's best preparation for any vocation in life he may eventually pursue. This requires that we know the individual child in order to know how best to educate him.

But his contention has always been that the child is a child of his race as well as of his time, and that the products of the race must be used as the material of the child's study in the schools; for they help him to stand upon the shoulders of those who have gone before in directing his own life.

Dr. Harris was a leader thru his personality more than thru his publications. It will be a growing regret of you and of all engaged in directing education that he has left in permanent form so little of that which he worked out with such assiduity. He has left no books that express in a connected form and in detail what he was wont to utter in fragments in his moments of inspiration. He had no irresistible impulse to write, and seldom prepared an address except on the cars or in his room immediately before its delivery. He had in mind more than a score of books that he intended to write, and when he withdrew from the office of commissioner he intended to set to work at once and put them into form. It seems to me that his old habit of working on the spur of the moment to meet an immediate engagement had him in its thrall.

I remember when he was once talking to a cultured group on some topic in the field of art and the audience was entranced by his thought and the felicity of his expression, that one in the outer circle asked him to speak louder. He replied, I thought with some annoyance, that if he must think on how he spoke he feared that he would have nothing to say. I think that is indicative of the habit of mind that has stood in the way of his writing the books he had hoped and earnestly desired to write.

Dr. Harris dealt with the foundation ideas of education. It was there that he loved to dwell. He was ever reverting to the presuppositions that went before the matter in hand. I have often wondered whether he was ever a great teacher of youth like Dr. Arnold. His administration of the schools of St. Louis had nothing in it of the doctrinal, and in his visitation of schools in other cities he was an acute critic of the practice going on, ever tying his criticism to some self-evident (when he mentioned it) principle of teaching. His intimate friends wondered at the practical acumen of the philosopher, but he did not have the influence of a great teacher upon his principals—with some marked exceptions.

His leadership lay in laying bare the foundations of education which had been buried for ages and forgotten beneath the layers of temporary expedients and devices and successive theories. He brought into the light of consciousness what had been in the subconscious since Christianity began.

The end toward which he looked was a synthesis; the impulse which he obeyed was analysis as it appeared to those who saw less profoundly than he. His aim in this analysis was to show the inevitable synthesis, but the educational public often failed to see the necessity of the synthesis in the analysis. It is for this reason among many others that we mourn the fact that he did not work out these syntheses in a series of books upon the various topics so essential to a full-orbed life the content of which lay so clearly in his own mind. It would be well if someone would take what he has left of fragmentary thought and articulate it into connected wholes. Everything said or done by him has its place in his scheme of thought, and that scheme of thought is, at bottom, a scheme of education. So loyal was he to the processes and products of his thought that he would sometimes say, when a new hypothesis was suggested, that if he admitted that among his categories he would have to reconstruct his entire system. It reminds one of the attitude of Hegel toward his own products in the later years of his life. Indeed it is the attitude of most philosophic thinkers, and of consistent thinkers in any field, when their system of thought has become the habit of their self-conscious life. Systems are the spontaneous activity of thought evolving itself in products in their beginning, but as they advance in their development the spontaneity limits itself to specific channels. Hospitality to new discoveries is the attitude of the scientist, and this often works the overthrow of tentative systems.

But the welfare of education is dependent equally upon the autocracy of a system of philosophy and the fluidity of the system of science. The teacher who turns his back upon either is sure to come to grief, whether he is ever conscious of his grief or not. The philosopher builds his system upon the past: the scientist, if he is a scientist in spirit and in truth, works with his face toward the future. The teacher is philosopher and scientist in one. There is too great a tendency today for him to become fluid at the expense of solidity. Dr. Harris was solid in education.

All that has been said of his power to make application of his theories to practice in education or to other institutions is true. He was the most practical of men to the degree that he was the most philosophic. The universally true is the only truly concrete truth. All finite truth is but an abstraction from the universal. If one knows the relatively universal he knows every phase or aspect of it expressed in an individual. The world of sense is the most abstract of all existence. The statesman is wiser than the politician in that he thinks more universally and therefore more concretely than the politician. Philosophy is often condemned for its abstraction, but that is done only by him who lives in the abstract. He must contend that God can

be known only in the abstract. He must shift his point of view before he can escape from his mirage. Of course Dr. Harris was one of the most practical of schoolmasters because he was more truly philosophic, more universal in his knowledge of things.

II. BY C. P. CARY, MADISON, WIS.

Dr. William Torrey Harris holds a unique position in the history of American thought and education. For nearly half a century he was mentor and intellectual guide for most of the men who within that period molded and shaped American education. His St. Louis reports and his early addresses and discussions of educational subjects were so eminently sane and so sound philosophically that subsequent developments and investigations have tended largely to verify his early educational theories. As a simple illustration of this general fact we may recall that his doctrine of the recitation as first published in the St. Louis reports was that the mutual aid pupils received from one another in the recitation periods was an advantage that nothing else could adequately take the place of. Many years later numerous experiments were tried with a view to individualizing instruction, but these experiments, while they are not yet ended, have invariably found their limitations, not only on the basis of added expense, but also on the basis of ineffectiveness. Dr. Harris was an illustration of a man who early in his career got started right in his thinking. Fortunately for the educational world, his mind matured early, as compared with most philosophers, and fortunate it was also that his speculative philosophy took a practical turn with respect to education. At the age of forty or forty-five he had, in my judgment, reached the full height of his intellectual power, though subsequently he added great stores of knowledge and even new philosophic insights.

Thru the courtesy of Mr. F. A. Fitzpatrick, I am able to quote at length from a personal letter the words of Henry C. Brockmeyer in which he doubtless gives a just and adequate estimate of Dr. Harris in his early prime:

> Mr. Harris is still at school; for he regards the sensible universe as the institution for the education of man: birth the matriculation, life the academic course, and death the graduation. To him life means our opportunity to come into more intimate relations, from day to day, with whatever is true, and good, and beautiful; to cultivate the most intimate acquaintance with whatever is, and is forever. With this interpretation of life, which presupposes self-conscious intelligence as the final end of the universe, and its realization as the significance of existence, he has applied himself with great industry to the acquisition of a connected view of the various achievements of man in art, science, religion, and institutions—industrial, social, and political—as selected parts of one self-consistent total. What has appeared in public from his hand may be regarded as the fragmentary results of his application, and bears evidence of a power of abstract thought, which, together with his unwearied industry—which may be regarded as his peculiar characteristic—promises well for the future. In his immediate practical sphere, as superintendent of public schools, he endeavors to transform these views into a living actuality, by realizing for his city a system which, while it opens to the pupils a vista in the eternal significance of life, is in strict harmony with the political institutions of the country.

"We educate," he says, "the future citizens of the United States. not the future citizens of Prussia, of France, of England, of China, or of Japan. This must dictate our methods. Nor shall we forget that, although citizens of the United States, they are to be men and women. The particular shall not swallow up the general. We will not educate Spartans; nor shall the general obliterate the particular. We will not educate blank, abstract humanitarians."

He may be regarded pre-eminently as a man of thought; his erudition, though varied and extensive, is never produced for its own sake, but ever in the service of thought. His concrete results are achieved from the self-mediation of thought, and not by the intuitive methods, which will, while oblivious of the logical relations involved, appear under the character of makeshifts for the time being. Morally without a blemish, he is socially esteemed, but his absorbing industry withdraws him from society as such. He combines the depth and industry of the German, the grace and poetic taste of the Greek, with the enthusiasm and practical tact of the American. In physique, he is strong, muscular, and enduring; in mind, clear, profound, and prompt, and in heart, warm, generous, and just. He is emphatically the man who would rather have truth than wealth, and rather be right than president. He is still young, his life work but fairly begun, and his fellow-citizens naturally look for great things from him in the future, and, if his life is spared, will not be disappointed.

But Dr. Harris was not simply an educator. At the same time that he was aiding so powerfully in giving shape to American education he was the defender of the worth and dignity of human life against the onslaughts of fatalism, materialism, pessimism, and a multitude of other 'isms that came thick and fast as falling leaves in the vale of Vallombrosa. It was the period of exaltation of physical science, the period of Darwin, of Wallace, and of Huxley. It was an era of English and Scotch metaphysics, and French materialism. Conservation of energy was the highest conception of science. The *origin* of energy was beyond its ken. A civilization will correct its own errors, or have them corrected for it, in the course of time, but there can be but little doubt that Dr. Harris' attacks upon Spencer's "Unknowable" and other forms of agnosticism saved this country from an inundation of false and pernicious philosophical doctrines that would have turned back the dial hand of civilization in the higher reaches of thought and speculation for at least half a hundred years.

On the cover of the *Journal of Speculative Philosophy* stood as a motto Novalis' splendid sentence, "Philosophy can bake no bread, but she can procure for us God, Freedom, and Immortality." Many in that seething period of materialism scoffed and ridiculed the motto and characterized the doctrines of the editor as Hegelian vagaries. Dr. Harris, however, had an unwavering conviction that the universe is the manifestation of a creative First Cause and that man is created in his image, that human character is infinitely perfectible, and that human life with all its imperfections and trials, defeats and successes, is merely the kindergarten to the infinitude of time thru which man as an individual, as a personality, shall exist and develop. The world to him constitutes an ascending series, from nothingness up thru inorganic nature, organic nature, and man to the highest spirituality in what he called the communion of saints or the invisible church. All of this he held

was merely the unfolding of the divine reason, the whole constituting a system and a never-ending process. The influence of such a man at such a stage of our development cannot be overestimated. His doctrine and his personality were such as appealed to young men whose theories of life were in a formative state, and the appeal was particularly strong to those who were entering upon educational work. They were not only drawn to him, but he was drawn to them. He thus became spiritual father to thousands, many of whom he never met personally, or at most but rarely.

It was my own great good fortune to come under the influence of Dr. Harris some thirty years ago. The manner of it I have been urged to tell, as it is regarded as more or less typical of what has occurred in the life of many others who know and acknowledge their deep debt of gratitude to him for stimulus and guidance.

In 1880 during an attack of the wander-lust I found myself on a hot August sabbath day in a tumble-down village on the banks of the Missouri River. In my restlessness I wandered into an open church and listened to a sermon by a prosaic, unemotional Scotchman. I had for some time previous been delving into Berkeleian idealism and also wondering whether it would not be well for me to make philosophy my career. At some point or other in his sermon the preacher touched in me a philosophic chord that vibrated. The next day I sought him out and had a long talk with him on logic, metaphysics, and kindred subjects, and in the course of his remarks he mentioned Dr. Harris and said that it was too bad that a man of his brilliant intellect should have gone daffy on Hegelianism. That chance remark was perhaps the most important thing as a factor in my life that was ever said to me, for immediately I was filled with irresistible desire to know about Dr. Harris and about Hegelianism. From the Scotchman's point of view I then began myself to grow daffy. I was a teacher and discovered in some way that Dr. Harris had published some educational reports. I sent and got such as were available. I likewise secured all the addresses of his that I could find in print. I discovered that he was publishing the *Journal of Speculative Philosophy*, and from that day to this a set of the *Journal* has occupied the place of honor above my study table. Through the *Journal* I was quickly introduced to Hegel, and from him I passed on to the study of that glorious company of immortals of whom Socrates, Plato, Aristotle, and Kant are the chiefest. For years I worked in this new field and the related one of insight-giving literature, with the greatest energy and enthusiasm; but, singular as it may seem, in all this time, lasting some ten years, I never met Dr. Harris or wrote him a line. Then came our first meeting in a hotel in Topeka at a late hour at night. I knew he was weary and I tried to excuse myself, but not until two or three o'clock the next morning would he allow me to leave him. Indeed, I finally tore myself away almost brusquely out of consideration for him. From an intellectual point of view it was the most significant conversation of my life and all but infinitely the most profound and brilliant. The universe

was transparent as crystal, and eternal verities delivered to us the message that is surrendered only to those who toil thru laborious years to the highest mountain peaks of philosophy. At such moments that which is temporal and accidental, that which is mere appearance, shrinks into the background as an intruder, and actuality and reality stand forth in all their beauty and perfection.

The five years following this meeting were to me rich in the study of Homer, Dante, Shakespeare, Goethe, Carlyle, and Emerson—all under the stimulus of Dr. Harris. I then found myself passing over into the study of sociology and assumed for a time that this was wholly on my own initiative, but only recently have I come to realize how along in the nineties Dr. Harris began to place renewed emphasis on the fact that the determination of the course of study is, after all, a sociological matter, not a psychological. Whether it was due to Dr. Harris or was merely the trend of the times, I do not know, but since the middle of the nineties our education discussions have been far less psychological and far more sociological.

Dr. Harris was a rare combination of Yankee shrewdness and philosophic insight and power. To him the learning-process was one of self-estrangement or alienation. The human spirit longs to reach out and find that which is seemingly foreign to itself, the unrelated, the alien. This it revels and disports itself in, until a feeling of familiarity develops and that which was alien ceases to be such, the spirit enlarges to compass the new and strange as a moment in its own development. Led by his philosophy of estrangement, and by his all-compassing interests as well, Dr. Harris studied profoundly oriental philosophy, language, history, science—in fact, every product of the human mind was grist to his intellectual mill. This combination of knowledge, shrewdness, and the deepest philosophy that the human mind has ever evolved made Dr. Harris invincible in debate. Many a man in the pride of his youthful enthusiasm has undertaken to measure swords with him in an unpremeditated debate. The result was invariably the same. The youthful enthusiast quickly discovered that his armor was but sorry protection against the shafts of Jove. But withal his manner had almost the timidity of a schoolgirl, and he never appeared to exult over his success in debate. He quickly recognized in the ascending ladder of the categories what rung any man had reached and by means of the dialectic method, of which he was past-master, he was able to show how the truth that might be contained in his adversary's viewpoint could be taken up and illuminated in the intenser light and deeper truth of the next higher category. Examples to illustrate this will doubtless occur to all; but recall, if you please, how a few years ago when the psychological discussion of interest was at its height, and some were disposed to take the interests of the child as their guide in the education of the young, that he in a few simple, direct sentences called attention to the fact that interests are good, bad, and indifferent, and that you must have a higher principle on which to select out the interests that should be fostered and encouraged and those that

should be suppressed, and that this higher principle is to be found in what the child is to become instead of what he now is. A child must be trained in the school to appropriate the experience of his fellow-men. He must conquer and make his own the social heritage of the race. The interest and self-activity of the pupil may be excited by and upon the merest *form* of studies and yet his culture in co-operation with his fellow-men be utterly neglected.

To those who are familiar with Dr. Harris' philosophy and his mode of thought the Report of the Committee of Ten, as it came from his hand, was in no sense a surprise, but the strictly logical outcome of his educational philosophy. For him there were five provinces of human learning—two relating to nature and three relating to man as a spiritual being. These five provinces must be represented in every course of study until the period of specialization is reached. While there is more or less overlapping of these studies, still in the main they represent separate and independent fields of knowledge. Arithmetic is not geography, geography is not grammar, or history, or literature. Each occupies its independent field and cannot be omitted and cannot be permanently subordinated. Literature, however, according to Dr. Harris, is by far the most vital, because it gives an insight into human nature and it reveals the motives and desires that prompt men to action. Dr. Harris never wearied in his reiteration of the term "self-activity" as applied to the human mind. He recognized many grades of self-activity, from feeling up to the highest type manifested in the supreme efforts of the human will. He even discovered self-activity in the plant, if not even in the passivity of inorganic forms. The inorganic was for him the starting-point of self-activity reaching finally, thru many grades of development, the divine self-activity manifested in the self-determination of the Creator of the universe. This idea of self-activity, he held, is the source of our thought of God.

> If one lacked this idea of self-activity he could not attain it. All attempt to teach him divine truth would be futile. He could not form in his mind, if he could be said to have a mind, the essential characteristic idea of God; he could not think God as Creator of the world, or as self-existent, apart from the world. If the doctrine were revealed and taught to him, and he learned to repeat the words in which it is expressed, yet in his consciousness he would receive only a limited effect, a dead result, and no living God.

Hence, he urged upon teachers with great persistence the necessity of calling out self-activity in the highest reaches of which the child is capable at a given stage of development. He greatly feared that by the use of wrong methods or by too prolonged a drill in the lower forms of thinking the child might suffer arrested development. Especially was this to be feared in over-training in sense-perception or in the quantitative aspects of nature. So too, he believed that the study of natural science, when pursued too exclusively, tended to blind the spiritual eyes in the course of time to the highest thought and emotion represented by music, sculpture, painting, literature, philosophy, and religion. No man ever had a deeper sense of the value of the human

institutions than did Dr. Harris. Without the family, the school, the church, civil society, and the state, civilization would be impossible, and if these were destroyed man would quickly sink back to the plane of his most primitive ancestors. The value, use, and preservation of these institutions he would have brought home to the minds of youth in the most effective ways that can be devised.

The student who comprehends the spiritual significance of the noble poems of Dante, of Shakespeare, and of Goethe, who appreciates, in a spiritual sense, the art of Raphael and of Michael Angelo, who can hold high converse in the philosophy of Plato and Hegel, whose spiritual nature is responsive to the Hebrew Scriptures, who can perceive that history portrays the development of the human race in its long upward journey toward freedom and spirituality —he is the fully developed man, he the man who has suffered no arrested development. Such a man was Dr. Harris, a soul free from envy, free from hate, free from all that belittles and cramps less perfect human nature. There was that in him which reminded one of Aristotle, and again that which related him to Phidias; nor is it sacrilege to say there was much to remind one of the Teacher of Nazareth. To him it was also given to show in no small degree the way, the truth, and the life. If the philosophy of our departed leader did not mock him he has passed on to yet higher visions of the true, the beautiful, and the good. His is the opportunity to test more fully than in the mortal flesh the truth of the vision Dante saw in his Paradise.

And now they ascend to the highest heaven—the tenth—and Dante sees the river of light of the Empyrean and the white Rose of Paradise, in which all the souls of all the heavens find their place, the paradise being symbolized by the perfect participation of each in the whole.

III. BY ELMER ELLSWORTH BROWN, WASHINGTON, D.C.

One day in the winter of 1901–2, I was sitting in the old office of the Commissioner of Education, when General John Eaton appeared at the door. Already age and illness had laid a heavy hand upon him. Dr. Harris rose quickly to meet him as he came slowly forward. He had stopped by the way for a word only, but it was to me a deeply interesting sight that those two great commissioners presented, as they stood for a few brief moments and talked together. They were the two men who had made the Bureau of Education. John Eaton had taken the office when its fortunes were at their lowest ebb, with an annual expenditure of but little over $8,000, had organized its work, had gained for it the confidence of Congress and the Executive, had guided it through perilous times, during the long term of sixteen years, and had increased its annual income to more than $80,000. Dr. Harris, after a brief interval, had entered upon the office of commissioner, finding it already organized and in working order, and had infused into its operations a philosophical spirit, a personal life and influence, such as has rarely entered the education

office of any state or nation, with an individual bent and quality such as could never reappear in any other time or place.

I could look on those two men as from without, untroubled by any thought of ever succeeding to their responsibilities, and it was with a deep sense of thankfulness for the incalculable service they had rendered to American education.

Dr. Harris was at that time in the full fruitage and ripeness of his powers. As I came to him then, not as a stranger, to be sure, but not as an intimate acquaintance—a younger man, seeking materials for some writings on education—I was chiefly impressed with his kindliness and his readiness to take an interest in another's work. That, I am sure, is one of the chief things to be said regarding his seventeen-year administration of the commissioner's office. The commissioner was there to help all comers who might desire such help as he had to give. He placed the facilities of the Bureau at their disposal. But the most that he had to give was himself, and he gave himself unsparingly.

The Bureau in his time was, indeed, "the lengthened shadow of a man." As one of his chiefs of division said, "There were no real division chiefs in his time. He was the head of every division." In a considerable measure this was true. He was large enough to overflow all of the activities of the office and pour his spirit into them all. A man who cared for the spirit more than the form, or rather, one who cared that the spirit should make forms to its purpose and not be cramped by forms which others might impose, he went forward carrying with him his assistants and subordinates in a current of high thought, pure aspiration, and unqualified devotion.

Under the dominion of such a spirit, the office had little of the character of a member in a bureaucracy, but was more a friendly fireside or a friendly beacon light. How much that unusual character in this government office has meant for the humanizing and enlightening of American education, I will not undertake to say. And there are many here, who having felt the power of that kindly influence will understand the meaning of all that I leave unsaid, tho it has gone too deeply into their lives to be brought forth in words.

Within the Bureau, everyone felt that power, down to the humblest laborer at four hundred dollars a year. Some, overborne by so dominant a personality, found as it were a refuge in routine. Some found their cup brimming over and drank deeply of those things of the spirit which had been given into their lives. All I think, with hardly an exception, came to an admiring devotion toward their great leader and friend.

How unconventional and non-political was his attitude, appeared at the very beginning. He often told the story of his appointment to the office. It was brought about thru the influence of prominent members of this Department of Superintendence, who laid their recommendations directly before President Harrison. But Dr. Harris did not conceal the fact that in the presidential election he had voted for Mr. Cleveland. President Harrison

refused to consider this an objection, and the appointment was duly made. Four years later, the commissioner's estimate of President Harrison having changed, he once more voted for the re-election of the occupant of the White House. But with the defeat of President Harrison, President Cleveland in his turn refused to consider the commissioner's politics, and Dr. Harris was reappointed. The office has never been "in politics" from that day to this.

It was during this second Cleveland administration that Dr. Harris again bade defiance to precedent by resisting an attempt at an increase of his salary. Governor Hoke Smith, who was then Secretary of the Interior, tells the story with humorous appreciation. Dr. Harris, as he recalls the occurrence, came to him in real perturbation on learning that the secretary was about to recommend the increase. There was expostulation on the one side and insistence on the other, but in the end Dr. Harris had his way, and Congress was not asked to make the advance. It would be difficult to parallel this instance in the history of the federal government.

Aside from his large correspondence and personal relations with educational leaders everywhere, the main work of the great commissioner was largely embodied in his annual reports. These reports commanded marked attention all over the world. The statistical portions were enlarged and improved. Chapters on a great variety of educational topics were included, sometimes even fairly extensive monographs. Especial interest centered in the commissioner's introductions, which presented a survey and discussion of the chief educational movements of the time. The increase in the bulk of these reports is indicated by the fact that while that issued in 1890, Dr. Harris' first year in office, cost for printing and binding less than $16,000, that issued in the year 1906, his last year as commissioner, cost $34,000. The staff of the office in the meantime had grown but slowly, the expenditure for salaries having risen from $45,420 in 1890 to $54,940 for the year 1907. The difficulty of securing an adequate staff of assistants weighed on the commissioner's spirit. But it was his conviction that this was a matter in which Congress must decide, and not one in which he could with propriety urge Congressional action. In spite of the small appropriations, a number of competent specialists and clerks were at all times attached to the office.

The Alaskan work had been committed to the Bureau before the time of Dr. Harris' administration, but it was during his term that the reindeer enterprise was launched. He was deeply interested in this undertaking. In his thought it related itself to the whole doctrine and method of civilization. Accordingly he not only gave his support to Sheldon Jackson in the beginnings of the experiment, but he brooded over it and planned its adjustment to the life of the Alaskan natives as it was at that time. I have said elsewhere that the reindeer enterprise seems to me one of the most significant and suggestive educational experiments of recent times. How much of its success is due to the restless, indefatigable initiative of Dr. Jackson and how much to the deliberate reflection and planning of Dr. Harris, it would be difficult to say;

but the two men worked upon it together, and doubtless both contributed largely to the outcome.

The difficulties of the Alaskan situation, after pioneering methods had done their first, great work and before a more systematic procedure could be carried into effect, wore upon Dr. Harris in the later months of his administration. He said to me, "I have been working at Alaska with both hands and trying to do the rest of the work of the Bureau with my little finger." While it was hard to put aside an occupation which had brought him honor and happy associations and to which he had given some of the best effort of his life, there came to him undoubtedly a great relief when he accepted the retiring allowance granted, with every expression of appreciation and esteem, by the Carnegie Foundation for the Advancement of Teaching. Another year in the Bureau of Education, as he confidently declared, would have cost him his life.

He was ready with every kind of assistance and support for his successor in office, whose appointment he had himself recommended. But he showed extreme delicacy, such as I have never seen surpassed, as regards the offering of any advice which he feared might prove embarrassing. I may not find a better opportunity of expressing my deep sense of gratitude for such unmeasured consideration shown to the younger man who followed him. I even feared that I might at times miss some word of counsel or warning where it might be needed, because of his unwillingness to seem, in the slightest degree, to dictate the policy of the office from which he had withdrawn. At the same time, he did communicate freely such ideas as he entertained regarding persons and plans, whenever his advice was asked. And when new undertakings were entered upon which he had held in earlier years to be inadvisable or impracticable, he was not slow to give them his outspoken indorsement.

There are many aspects of his work as commissioner which cannot be touched in this brief paper, and some of them of great significance. Neither has it been possible to speak of the services, outside of his official duties, which he performed in the years of his commissionership. I have only mentioned a few things, here and there, in the great work of a greater personality, a personality indeed of oceanic vastness, which overflowed all common metes and bounds. But these few words are a tribute of filial affection. They are offered to the memory of one whose influences and tradition will, I believe, forever be the brightest and most precious possession of our federal Office of Education.

TOPIC: CHILDREN DIFFER IN MENTAL ATTITUDES, TASTES AND TENDENCIES

I. DANGERS AND ADVANTAGES OF SPECIALIZATION PRIOR TO THE HIGH-SCHOOL AGE

W. E. STRIPLIN, SUPERINTENDENT OF SCHOOLS, GADSDEN, ALA.

A thoughtful student of children is forced to the conclusion that they differ in mental attitudes, tastes, and tendencies. This being true, if we meant what was declared in the principles laid down at the last National Education Association, "that we believe in equal educational opportunity for every child," we must arouse ourselves to the very great responsibility of making our teaching, courses of study, and schools meet and solve in a helpful way these differences.

When we consider the fact that the highest percentage of elimination by grades is from sixth to seventh and totals 14 per cent., we would be criminally negligent were we to fail to look for the causes and strive hard to apply sure and swift remedies. Think of only one-third who enter school finishing the elementary school of seven grades or more; the median of the last grammar grade, seventh, eighth, or ninth, being 38.5 per cent. Of course we all realize the very great importance of giving sufficient cultural information on which to build well-rounded symmetrical characters before specialization begins. We can but recognize also that while children are young there is much weight in the argument that they will get more systematic and hence stronger training by being taught by a single teacher than by more in the departmental plan. But the single teacher to the grade plan is in existence today in a vast majority of the strong school systems and it was in existence when the above-stated statistics were collated.

Do you not agree that our duty is to select a means whereby the existing shortcomings of our schools will be eliminated? Are the parents of the children intrusted to our care going to be satisfied much longer? Will business men continue to back us and support our measures heartily unless we rise to the full height of educational leadership and show that we understand our business by putting a stop to this waste and elimination and by showing that every cent in every dollar invested in maintaining educational systems is being used in the very best way possible by educational experts who do only the very best work at all times?

I am firmly convinced that we need some specialization, beginning at least by the time children are through the sixth grade, that will rivet the attention and interest of many who leave off school work and begin to battle with life's problems about that time. We all know that no one teacher can teach all the branches so as to secure the very finest results in each. Many strong teachers in arithmetic fail miserably when they attempt to present geography, history, or grammar. This being true, why not get the strongest teachers of the various branches and thus give them an opportunity of special-

izing so that they may become expert in the presentation of one or two subjects, rather than stay mediocre in presenting all.

In this electric age, an age of practical things and measures, there comes a demand to the public schools for a more practical turn in educational endeavor. We cannot clear our skirts by meeting the demand in a general way. We must plan so as to equip, if possible, for better citizenship every pupil intrusted to us for training. With the strongest and most skilled teachers in charge of the various subjects in the upper grammar grades, the subject-matter will be made so attractive and will appear so essential that many will be held for a longer term of years in school, thus increasing their earning capacity and in the end adding to the wealth of the communities where they are to live and work.

It may cost some more to have the departmental plan in the upper grammar grades, but it also costs more to run high schools; yet we cannot fail to realize the very great benefit of specialization in high-school teaching. If by carrying the plan down to the sixth grade we can hold a fair percentage of those who are now dropping out at or about that stage, would it not be money judiciously spent in any community? It seems to me from the investigations made that the advantages, to the pupils of varying mental attitudes, tastes, and tendencies, in the expert, artistic, high-class teaching that is secured by the departmental plan, far outweigh the disadvantages. If the town or city is too small to furnish a sufficient number in the two upper grammar grades to require a teacher for each subject, let one teacher take two or more subjects, and she can then do better work than with all.

The second kind of specialization that I want to call your attention to for the benefit of twelve- to fourteen-year-old pupils has to do with the superintendent's, the principal's, the teacher's work outside of the schoolroom. I am convinced that far too many feel that they have discharged their school duties in a perfectly faithful and conscientious way when the school hours are ended each day and the book instruction has been given. Those who feel thus either fail to recognize the differences in children or do not feel that their responsibility is great enough to drive them to the point of trying to reach those hardest to reach. Sometimes the very finest work for the child can be done with the parent. Some special work in securing the co-operation of parents is absolutely necessary in almost every school and many times during each school year. Sometimes a child's attitude toward a study or studies is not his own, but merely reflects his parents' opinion and estimate. And will the most indifferent superintendent or principal say for one minute that his duty is not to convert that parent to the correct attitude and thus save the child to a longer school life?

Time cannot be spent to better advantage than in working after and securing the co-operation of home influences in our school work. Much of this special work can be done by the superintendent by a wise and tactful use of the newspapers in making appeals to parents for a united effort of every

element constituting the school community, and convincing them of the correctness and helpfulness of any innovations. He may have to send a circular letter to all parents on some occasions. He will have to go in person a few times or in some way get parents to come to him. Whatever effort is necessary should be put forth enthusiastically and gladly, for in so doing some pupils will be held in school and the sweet realization that comes from duty well done will more than compensate for the sacrifices made.

Strong expert teaching will not wholly eliminate the dropping-out process; there must be a specialization brought to bear that will reach the home and bring it into a helping relation; that will make it the strong right arm of the school, if you please.

One main cause of elimination is incapacity for, and lack of interest in, the sort of intellectual work demanded by present courses of study. The pendulum has swung too far and the courses of study do not meet the present-day demands. Colleges dictate entirely too much in reference to high-school courses; this causes the high schools to dictate in a large measure the curriculum of the grammar grades.

I fear we are prone to lose sight of the fact that a large majority go into the various walks of life from the elementary schools and that they, constituting such a large part of the school population, should have some attention, at least in the matter of electives and specializations. Do not misunderstand me; I would not for a moment argue against college attendance nor even against the lower schools encouraging pupils to aspire to and try to take higher training. I am perfectly willing for teachers to create a vision that will cause many of their pupils to become ambitious enough to take university training, but at the same time, I would have the courses of study arranged so as to give just as much inspiration and just as many practical helps as possible to the boy or girl who cannot even hope to graduate from the high school. Let us not force them from our schools at this early age with but little knowledge and with no tools to work with in securing more; no *desire*, if you please, that would keep them climbing toward higher heights and to richer and fuller lives.

Some will say that it is too expensive to have electives to suit the tastes of those pupils who expect to drop out and not finish a high-school or college course, but I would have them remember that this is the larger class and they have a right to be considered; and justice demands that we meet their desires in a way that will enrich their lives and make them better able to cope with the difficulties of life and be a blessing to the communities in which they are to live.

The courses of study for this class will necessarily vary and will have to depend on local conditions. The occupations of the locality would be very largely a determining factor. I am of the opinion that but few studies, as our courses now stand, would have to be excluded, but a very large elimination of subjects and subject-matter, as now presented in our textbooks, would of necessity take place.

I cannot enumerate all, but in arithmetic, for instance, only the practical parts that could be applied to use in the various vocations in the different localities would be used. By use of local applications, the various principles would be grasped in a shorter time and much less work would have to be given under each head. Many of the tables in compound numbers, cube root, and other topics of no more directly practical nature could be omitted altogether. The same process of elimination should be applied to other subjects. I am firmly convinced that much constructive work should form an important part in every course. The amount and nature would have to depend upon the local conditions.

The last form of specialization toward which I would direct your minds is made necessary from the fact that the largest elimination is from force of circumstances. A living must be provided for the family. This is a condition that is growing on account of increased competition and cost of necessities. Why not arrange a course of study to extend over three years that can be covered by classes working one-half day at a time? The teachers in the upper grammar-school grades and the teachers of the high school could take these classes and give the same work in the morning and in the afternoon, but to a different set of pupils. This plan would enable a large class of *boys especially* to work one half the day and attend school the other half.

Here again the question of expense would arise, but the question of justice to a large number would arise at the same time. I am of the opinion that this short course would hold many who really want to finish but cannot work up the courage or spare the time to take a full high-school course as now constituted. Many after taking this three years' course would become ambitious to take still more training and might be encouraged to finish at college or the university.

Arranging for the two shifts of pupils for the half-day classes, and especially helping to secure half-day jobs, will require much extra labor; but by seeing the merchants, the lawyers, the doctors, the manufacturers, and securing their co-operation in the name of humanity and better citizenship, the plan can be made a success. I believe this method can be worked even in small cities and towns, for it could be started to advantage with a class of twenty, ten in the morning and ten in the afternoon. It seems to me that this would be easier and more practicable and less expensive than the every-other-week plan.

A special course extending over three years, beginning with the seventh grade, should be arranged for pupils who are going to be compelled to begin as bread-winners at or near the age of fifteen. To hold pupils for this course, specialization will have to be resorted to and a close connection between it and actual life be made very evident. Even in this short course, there should be some electives. One division would satisfy those inclined to business, another branch those of a mechanical bent. One of the important things to study in each course would be the manufactories and various industries and callings in the local community. Some will argue that there will be

no end to courses until each individual is reached and held in school and prepared; but a few electives, determined by the locality and industries, will reach a very large majority, and the fact that many will in this way be held for a longer school term will be felt in the future in an elevated citizenship, and we will then feel amply repaid for our extra work in having built up a school for the benefit of all the boys and girls. Let us fail and we will be pointed to by future generations as people who played at furnishing equal school opportunity for all.

The laggard, the exceptionally bright, the careless and indifferent, the dissatisfied, the normal child, and the one who must earn a living—all should have educational opportunity provided which is best suited to the direct needs of each class. Let us not forget that the school exists for the child, that means each child; and the courses should be so arranged as that the very best thing possible will be done for every pupil. If we attract and hold all of them in an interested and beneficial way that will equip them well for the intelligent exercise of the complex functions of an exalted citizenship, the people will be perfectly willing to invest even more money in such noble endeavor and for such uplifting influences.

As educational leaders, we must remember that a conscientious, efficient discharge of our duty to the whole community demands that we plan wisely, in a broad way, so as to secure the very highest results to the very largest number in educational uplift. We should take this for our motto, and it will cause us as superintendents to consider the differences in children and try hard to supply their various educational needs.

"May every soul that touches mine,
Be it the slightest contact,
Get therefrom some good,
One little grace, one kindly thought,
One aspiration yet unfelt,
One gleam of hope to pierce the thickening mist,
To make this life worth while and heaven a surer heritage."

II. THE EFFECTS OF ELECTIVES UPON THE FUTURE WELFARE OF SECONDARY EDUCATION

J. STANLEY BROWN, PRINCIPAL OF TOWNSHIP HIGH SCHOOL, JOLIET, ILL.

Horace Mann's advent in the little town of Yellow Springs, Ohio, back in the fifties, and the labors of those last few years, constitute probably the initial step in the formal recognition of elective studies. The great extension in meaning, however, is confined to the last fifteen years in both secondary and higher education.

In the earlier history of secondary education when schools were somewhat small and poorly equipped and when funds were more difficult to obtain than at present, we had the same set of studies provided for all, regardless of sex, previous condition, or future employment, and we considered that we were

rendering the best service to all, and it is reported that there are some remote regions east of the Alleghenies even now where such an opinion is making a struggle to survive.

We are gradually learning, however, that the Lord made the boy and that it is only man that makes the course of study and prescribes its limitations. We are learning, too, that no longer can we fashion the boy, God's product, to the course of study, man's product, but we must fit the course of study to the boy—yes, to the individual. By so doing we do recognize that boys and girls differ in mental attitudes, tastes, tendencies, etc.

Now, let me say before I proceed farther that I am not an advocate of unrestricted, undirected electives, and what I may say refers to electives under wise direction. This means that the work of finding out from earlier teachers the tastes, mental attitudes, etc., must be systematically done and the findings thereof made the basis of assignment when the boy begins his secondary-school work. We have all been shamefully lacking in this and have trusted that somehow the boy's American spirit to go it alone might either help him to avoid the rocks or give him grit to endure the bruises.

Every large school ought to have a teacher of great wisdom, experience, and foresight, whose entire time should be given to directing the boy's choice of studies, career, higher institution to attend, etc. It is certainly true that the present meager knowledge of the individual student is insufficient to justify a selection of studies for him, or to help him determine what he is best suited to do in life, or at any rate to establish a goal toward which his future efforts are to be directed. If this goal is far away it is probable that he must have more training, and if so, the type, kind, and location of some higher institution must receive attention. Many a life is lost to the nation because the individual could not determine for himself what his natural endowments fitted him to do. Many another life is wrecked because the individual chose unwisely the type of higher institution best suited for him to attend. The work of such a teacher is of the highest order, and certainly no one would say after thoughtful consideration that such procedure interferes with the development of initiative.

The introduction of elective studies has been a great factor in doubling the attendance at secondary schools during a period of about ten years. The individual has been recognized and the greatest good to a greater number realized, and as rapidly as local conditions or the need of the age demands it, the high schools must offer new lines of work, broaden the opportunity for elections, and continue to be in reality the college of the common people.

The secondary school does not exist for the gratification of any man's ambition or to exploit a theory of education. Nor does it receive support by the public for the sake of the development of one department, as occasionally some teacher thinks; but its prime function is to give to the youth the greatest opportunity to develop. In so far as the elective system extends this opportunity its effect on the future welfare of secondary education is good.

If the elective system attracts and holds thousands of youth while the older, narrow, all-required-work type of courses attracted hundreds and held a smaller percentage than are held at present, the elective system is making a great quantitative contribution to both the present and the future welfare of secondary education.

Modernized courses of study with elective studies mean extension of influence downward and upward and must have much to do with shaping the grammar-school courses of study and also the earlier years of the courses in colleges and other higher institutions of learning.

The force of the electives and the benefit to be obtained from them are lost unless their number and scope are sufficiently extended and inclusive to meet the needs of the boys and girls of different tastes, purposes, attitudes, etc. If the evident public demand which is being met now by schools not supported by public taxation is to be met by high schools, the number of elective studies must grow larger and must also be related to one another. The failure of the public high school to meet these public demands has led to the establishing of private schools. Now any scheme which looks to the future welfare of secondary education must reckon with public demand. The best education the schools gave in 1860 will not meet the demands of 1910.

Each age produces its own problems differing from those of preceding ages because the conditions under which we live are not static. These problems in education we must solve in the light of present knowledge. What was highly satisfactory in the solution of educational problems a quarter of a century ago cannot with any degree of sanity be applied to present-day problems. Boys and girls enter our high schools intending to be in school for one year or at most two years, and then they must go out into life and do some of the world's work. For such it is manifestly unfair to think we are doing the the best for them to give them two years of a well-formulated four-year course. We must recognize the elective system, select for them the subjects of greatest benefit to them, and give them the best teaching the school affords. Let us call this specialization or any other name; we must give such people something which will enable them to take their part in the world's work at once and without the embarrassing necessity of being adjusted to conditions outside of the school or of being completely recast so as to fit the demands of real life.

It is pre-eminently the business of the school so to keep in touch with life that no adjustment will be needed, and if the student's life must practically be recast before he can take his place in the world, it is the school that needs adjusting. I am convinced that the high school with one course made up of what we call the traditional studies will for the present do more acceptable teaching and produce more accurate scholars, than the new, modern courses organized to meet the needs of present-day life. But the appeal of the former is to the constantly diminishing few, the latter to the constantly increasing many. If such is the effect of electives on the future general good of

secondary education, there can be little chance for a controversy touching the desirability of generous electives.

Again, judged on the basis of scholarship only, there are few in high school, college, or university possessing adequate claims. In my judgment, it is not the primary purpose of any of these institutions to produce scholars, and if that is the purpose, failure to do so is glaringly evident. Do not understand me to underestimate the value of pure scholarship, because no one thinks more highly of the real, true scholar than I. But of the pretenders, what shall we say?

A few years ago every high-school and college man thought he had utterly failed in the performance of duty if when opportunity offered he did not say something about the yawning chasm, the great gulf between the elementary and high schools. Well, something has been done, and is being done, to bridge the chasm or narrow its bounds so that the average child of fourteen may safely make the journey across and land in the high school. But now we are hearing of a more serious chasm between the high-school boy and girl and the wide world—the big public. Now this demands consideration, and, like some other great questions, I think it ought to be dealt with by its friends.

A high-school course of study for a boy is a certain number of years of his life, and ought to be so shaped that he would experience little inconvenience or loss of time if at any time his school life should be suddenly transferred to some other life outside of school. It is a very sad comment on our courses of study and the instruction therein, if he must be penalized when he offers himself to do some part of the world's work, and yet we know in many cases this is precisely what happens. We must connect the school life more directly with the life outside the school, and in making this connection there must be advice and help sought from the people outside who are immediately concerned with the boy who may come to them after he has spent one, two, or perhaps more years in high school.

The ironclad course of study had its place, its limitations, and it likewise had its day. It was good for the few, and is yet. But this is not a sufficient reason to apply it to the many. We must recognize differences in mental attitudes, tastes, and tendencies, and in no other way can this be so well done as by skillful planning of such electives as will fit the needs of these people so unlike in mental make-up.

The call of the state is for a better citizenship, and to this end laws are enacted requiring attendance in the public schools until the age of fourteen, sixteen, or seventeen is reached. The financial call of the family summons the boy to become a breadwinner, and now the boy is face to face with the loss or gain represented by those two years in high school. Does it not make for the future welfare of secondary education to have directed that boy so to elect his work that his earning capacity may be recognized at once, and both the boy and his employer be able to see at once that his earning capacity has been increased because of the school training received?

If this be not true in the great majority of cases, what has the boy gained from state-enforced education? If this be not true, the boy is likely to become a malcontent. Does it pay? Will it ever be justifiable for the state to produce thru the agency of the public schools bodies of malcontents?

The difficulty of working out a solution for this problem of making a closer, more direct, more evident relation or connection between the life in high school and the life out of high school is far greater than bridging the chasm between two co-ordinate parts of an educational system, and no single element in our modern education contributes so much toward the solution of the problem as does the system of elective studies along broad, comprehensive lines. In the application of such a scheme we enlist as interested co-workers the men and women who under most circumstances have little or nothing to do with the public schools except to offer some occasional adverse criticism about some policy which they failed to comprehend. If by such means we secure an interest in educational leadership among the patrons and supporters of the school, the future welfare of secondary education is assured.

We find that electives tend to broaden the appeal of high-school work and thereby greatly multiply the number entering secondary schools. This is a defensible factor in the future welfare of secondary education.

We find again that election of studies reaches its most satisfactory result when under the careful direction of a wise counsellor, and that the work of such a teacher is a great factor in determining the efficiency of young life in public service. The elective system makes such direction full of meaning.

We find that school life may be so related to life out of school by means of electives that there is little or no break in passing from one to the other, and that if the state insists that in the interest of good citizenship the boy should attend high school till sixteen or seventeen years old, the boy may insist that the benefit be commensurate with the expenditure of time and effort.

We find that specialization may be best arranged by a careful grouping of elective studies for the individual whose attendance in secondary school must be limited to two years. We find that old narrow courses of study whose content was well tried and appealed to a few will probably produce a higher grade of scholarship for the few; but the appeal of the broader courses of study is to the many, and in time they, too, will produce a larger percentage of scholars.

We find that electives enable the public school to adopt the best new things introduced and tried out by secondary schools conducted for revenue only. By such means the high school is kept up to date in subject-matter and method of presentation.

In conclusion, the effect of electives on the future welfare of secondary education will be to magnify the field of high-school education; keep in close touch with public demands; lead the schools away from domination by any other institution, and relate the work of the school more immediately to life.

III. DO PRESENT COLLEGE-ENTRANCE REQUIREMENTS SUFFICIENTLY RECOGNIZE DIFFERENT TASTES AND TENDENCIES OF PUPILS?

ALBERT ROSS HILL, PRESIDENT, UNIVERSITY OF MISSOURI, COLUMBIA, MO.

Just how far we shall go in recognizing individuality of taste and tendency among high-school pupils, especially during the earlier years of the course, is not very easy to determine with precision and definiteness. The youth is more or less unstable and whimsical in his tastes then, "he is everything by turns and nothing long," and it is one of the functions of secondary education to reveal to the pupil and to his teacher and guardian what his permanent and dominant interests are and in what direction his greatest capacities for work and usefulness lie. This in itself would seem to impose some restrictions on the elective system in secondary education. This was recognized by the Committee of Ten of the National Education Association, wherein the committee advised in favor of postponing the choice between literary and scientific curricula till as late as possible in the four years' course,

> since the choice between these two roads often determines for life the youth's career. Moreover, they believe that it is possible to make this important decision for a boy on good grounds only when he has had opportunity to exhibit his quality and discover his tastes by making excursions into all the principal fields of knowledge. . . . . The wisest teacher, or the most observant parent,

and one might add, still less the youth himself, "can hardly predict with confidence a boy's gift for a subject which he has never touched." This led the committee to suggest that during the first two years of the high-school course, literary, historical, mathematical, and scientific subjects should all be properly represented. Now, we have made some progress since that committee's report was published, and we would doubtless want representation for industrial and commercial work, but the essential principle involved seems equally valid today.

To my mind there is at least one other ground for restricting the application of the elective system in secondary education. Some variety of study is helpful at this stage in giving that insight into our civilization which is an essential element in modern culture, and some continuity of training is important in developing sound habits of accurate and systematic thinking that are essential to efficiency. Every high-school graduate should have the habits of thinking that make for efficiency and also be able to share in the great æsthetical and cultural values of human life and be responsive to the demands that society will make upon him. This probably led another committee of the National Education Association—that on college-entrance requirements—to recommend the maintenance of certain constants in those requirements. These constants included a certain number of units in English, foreign languages, mathematics, history, and science, and it was recommended that the remaining units be elective, leaving about one-half of the high-school students'

time to the pursuit of those studies that at the time seem best suited to their individual tastes and tendencies, or seem to bear most directly upon their probable future vocations. These constants were two units in English, four in foreign languages, two in mathematics, one in history, and one in science, and the electives were to be chosen from the same general fields. Here again we would probably agree today to widen the field of electives at least, and to be less insistent upon the number of units required in foreign languages, but I see no reason for a radical departure from the principles laid down by that committee of this Association.

How do present college-entrance requirements in this country compare with those recommended by these committees of the National Education Association? On the average, they follow them very closely; a small number of important colleges being slightly more rigid in their demands than the suggestions of the reports and a large number affording opportunities for greate flexibility than any recognized body of educators in this country has yet seen fit to recommend. To substantiate this statement, it is only necessary to examine the catalogs of typical institutions. I begin with the oldest American institution of higher education, Harvard College.

The entrance requirements at Harvard are as follows: 3 years of English, 2 years of French or German, 1 year of history, 2 years of algebra and plane geometry, 1 year of science, the remainder to be selected from a list including English, German, French, Greek, Latin, history, mathematics, physics, chemistry, astronomy, geography, anatomy, botany, zoölogy, civil government, economics, music, drawing, manual training (including woodwork, blacksmithing, clipping and filing, machine-tool work). This shows that our oldest American college has gone much farther in making entrance requirements flexible than has the National Education Association in its recommendations. Equally flexible are the requirements at Columbia, Cornell, and Chicago. Perhaps Princeton may well be taken as typical of those colleges which quite legitimately, I think, do not feel responsible to every class of student but prefer to have a select group of students and to have their degrees stand each for a particular type of culture. For entrance to the classical course at Princeton, the student must present one year in history, 3 years in English, 3 years in Greek, 4 years in Latin, $2\frac{1}{2}$ years in mathematics, 2 years in German or French. But anyone desiring the B.S. degree can substitute modern languages for Greek, and one desiring the engineering course need not present ancient languages at all. Vanderbilt, a typical southern institution on a private foundation, makes requirements resembling those of Princeton, but does not insist on either Latin or Greek for entrance to the Arts course. These institutions, and others like them, are among the most rigid in their entrance requirements, but they are what are generally known as private colleges. No student is bound to attend them, and they are not strictly responsible to the general public in state or nation for service of a varied character such as can be demanded of the public institutions. On the other hand,

we do find among privately endowed institutions the greatest flexibility, the most striking instance being that of Leland Stanford Junior University, which specifies only three years of English, leaving the remaining twelve units of secondary-school work to be selected from a very wide range of elective studies.

But after all, the state university is the most strictly American institution of higher education today, and holds the most intimate relation with secondary schools. Probably, therefore, the best field in which to seek an answer to our question is to be found in the entrance requirements of our state universities, as these vary chiefly in the quality and quantity of high-school work demanded and not to any large degree in the proportion between constants and electives. I am going to treat the University of Missouri, which I know best, as typical and call your attention to the following requirements for entrance to the College of Arts and Science: 15 units are required, including three years of English, 2 years of any one foreign language (Greek, Latin, German, French, or Spanish), one year of elementary algebra and one year of plane geometry, the remainder to be presented from the following list: English, Greek, Latin, German, French, Spanish, solid geometry, trigonometry, advanced algebra, physics, chemistry, general biology, botany, zoölogy, physical geography, commercial geography, economics, civics, history, domestic science, agriculture, manual training, freehand drawing, mechanical drawing, and music. What other subjects should be recognized? When I have put this question, I have thus far never received an answer, but I dare say commercial branches may be pointed out as given slight recognition, inasmuch as only commercial geography and economics have been suggested. My reply to that is, let the high-school principals determine what is to be considered standard courses for a curriculum in commerce, and there is practically no doubt that the state universities will promptly recognize the work for entrance.

The entrance requirements of other state universities closely resemble those of Missouri, Wisconsin and its northern neighbors being somewhat less flexible, Louisiana, at the opposite end of the Mississippi Valley, being more so. Louisiana State University does not require any foreign language for entrance, and accepts as electives stenography and bookkeeping, in addition to those subjects usually found in the accepted lists.

It thus appears that the colleges and universities of the country, especially the state universities, have responded to the recommendations of recognized committees of this Association, and have adapted their entrance requirements to the changed conditions of secondary education, and the later conceptions of its functions. In many instances, indeed I believe in the majority of the state institutions, they have gone farther than the committee of secondary-school studies and other similar committees of this Association could well have expected, inasmuch as they have made their requirements more flexible than was suggested. If they have not gone far enough, is it not time for the National Education Association to appoint another committee composed of

high-school and college teachers to reconsider the whole question of high-school courses and their relation to college-entrance requirements?

But perhaps it will be said that the content of the several units of subject-matter needs revision. Permit me again to point out that these have all been determined by special committees of this and other associations of teachers, and if revision is demanded, the movement should come from the Association instead of having individual members complain because the colleges describe the units for admission in accordance with the recommendations of this and other bodies supposedly fitted to judge.

In the administration of college-entrance requirements, we also find a possibility of doubt as to the effect of those requirements upon the individual tastes and tendencies of pupils and the individual conditions and needs of localities. Now I am not sufficiently familiar with the methods followed in all the colleges to speak with full knowledge on this phase of the subject, but we are all aware of the two leading methods of administration of college-entrance requirements in America. In several of the eastern institutions, students are admitted on examination only, whereas thruout the entire West and almost universally in the South, the certificate of an accredited school is accepted in lieu of examinations. It seems to me to be evident that the latter method furnishes the better means for recognizing individuality. A wise inspector of schools will seek to determine the quality of instruction offered in the high schools, and when a teacher whose work is approved testifies that John Jones has satisfactorily completed a unit in American history and government, for instance, the entrance committee of the university will accept that unit for entrance without inquiring what special topics were stressed or whether the cultural or vocational aim was chiefly in the mind of the teacher or pupil.

In the main, then, present college-entrance requirements make reasonable provision for recognition of the individual tastes and tendencies of pupils, in form, in content, and in administration. Recent changes in them have been made in line with recommendations of national or sectional associations of teachers, and the public institutions especially have shown a readiness to adapt their requirements and their work to the changing needs of the people.

DISCUSSION

J. George Becht, principal of State Normal School, Clarion, Pa.—I think we are fairly well agreed upon the following propositions. First, that education in its earlier stages is very largely indeed a general preparatory function: having in view the training for power, method, and skill. Second, that it is generally concerned with giving the pupil a command of certain definite arts which he may use later for the acquisition of special knowledge. Third, that the course of study should be so adjusted and balanced as to form a fitting introduction of the child into the moral, social, and industrial activities of his generation. Fourth, that the course of study as ordinarily administered does not sufficiently recognize individual differences in children.

The course of study prior to the high-school age, as ordinarily prescribed, comprises such subjects as are generally believed to give a good foundation for special education.

That there is much traditional matter taught cannot be denied. The course needs constantly to be overhauled and the dead matter cast out. But that work is hardly the work for children. It must be admitted that as adults we have not shown superior wisdom in the construction of our courses of study. "Compound Partnership" was a business invention of the seventeenth century and its operation soon after was displaced by the joint-stock method of conducting business; yet in the face of this our textbooks up to a few years ago were still giving space to the elaboration of this effete and fossilized subject.

The course of study constantly needs readjustment to meet new demands and new conditions. If we begin the work of specialization, upon what basis shall we specialize? In the elementary group of studies we find the historical sciences, natural sciences, and the linguistic studies. Surely none of these can be omitted. If we will sensibly adjust our programs, the work of specialization will take care of itself.

It is hardly necessary to argue here that specialization has a tendency toward narrowness, that invariably the specialist interprets life through his specialty. The specialist is of infinite value to us. He is the pioneer in most of life's activities. He has made possible the great discoveries and inventions of the age; but the masses of mankind are not and will not be specialists. They need a general training so that they may adjust themselves to life's varying and various activities. It is true there may be a certain amount of election and specialization in the high school, and as we pass into the college and university the specialization may be made more selective; but surely the early years of a child's life are for the purpose of giving him a mastery of the tools of education, the instruments by which he will interpret later life, and for this he needs a broad, general, and generous foundation.

The peculiar danger of early specialization lies in childhood's extreme capriciousness. Impulses apparent for a day or two are exceedingly powerful and dominant, and then evaporate, leaving barely a trace. Today the boy is in a telegraph office. He becomes interested in the click of the instrument, emotional enthusiasm overpowers him, and he would be a telegrapher. Ten days later he has forgotten that he would be a telegrapher. He stands in front of a wholesale house and watches the men loading heavy boxes, while there stands a man directing and checking up the invoice. For the moment that occupation appeals to him and he would now be a bill clerk. Later he picks up a piece of lead pipe, a brass valve, some nickel fittings, and having heard of the fabulous fortunes of the plumber, he would become a plumber or a junk dealer. His choice is determined by fleeting impressions; by whims and caprices of the moment. I do not minimize the value of these temporary interests. They may be made to serve useful ends. but in the last analysis the child needs to be put in touch with permanent interests, and these are of a later development. After all it is not the purpose of the school to develop complete little men and women. We need to make more and more of childhood's happy days instead of forcing these little ones into highly specialized forms of activities. The state recognizes the fact that it is necessary to protect the broader development of the individual by not allowing children to engage in certain occupations before the age of fourteen. If in this narrower way the state recognizes the danger of specializing a child's activities, it would seem that those who control the destinies of children in the school, at a time when life is most plastic, should approach this subject with an appreciation of its influences on the larger aspects of life. Early specialization, that is, specialization before the high-school age, is bound to be done at the expense of a well-rounded development.

W. A. Godward, superintendent of schools, Devil's Lake, N. Dak.—That children differ in kind and range of capabilities is well known. That education should vary to accommodate these differences is well established, both in theory and in fact. But that these variations in education should all aim at retaining or differentiating these initial individual differences is by no means true. Mere variation may mean something or nothing in the individual. Nature is reckless, prodigal, in her variations. She appears to care nothing for waste nor for individual destructive elimination. She aims at a type.

Education, too, must aim at this same type; but the whole theory of education, unless it is wrong, aims not only at the desirable types but has as its secondary aim the preservation of the individual. In the process of performing this double function, it is quite as often the aim of education to equalize these natural variations as to differentiate them. In fact there are whole fields of human interest and education in which not differentiation but universality, both of idea and of habit, is the aim. Such are the whole fields of ethical, religious, and civic culture, in which the chief danger is not uniformity but variation. In fact the very nature of this kind of culture is universality.

The fact of variation in the individual does not in every case call for specialization. It may call for equalization, or for elimination. It is only when society demands a differentiation in ultimate function that that kind of differentiating education known as specialization is warranted at all, and then it must not be indulged in indiscriminately. The specialization must be subject to the law of growth of the child and the complete demands of society and must take into account the individual variations.

In what fields of education do we find the social demand for variation in the final product? We have said that this result is not desired in ethical, religious, or civic training. With one exception it is as little desirable in physical. This exception is the demand for different physical powers and qualities with reference to sex. This variation is in little danger of abuse and the advantages are obvious. In the field of the æsthetic, we find wide variations in the children, and beyond the common standard of good taste and expression, we find a wide range of variation recognized if not demanded by society. In the field of art, of course, these variations both in demand and in capability warrant specialization; but this specializing must be subject to the limits just mentioned, the laws of the child's growth and the complete requirements of society. The fact that the æsthetic powers develop at an early age will throw this limited amount of specialization into the elementary period.

But it is not in the realm of ethical, or religious, or civic, or physical, or æsthetic culture that there has been made the most insistent or the most boisterous demand for specialization, but naturally enough, this demand has come in the field of vocational education. Nor are the demands, on the whole, irrational. They are fully warranted by the variations in ultimate social demands. But because these demands for vocational education should be satisfied, and will be satisfied before long, not only in a general way but in a special way, it by no means follows that this specializing should be done in the elementary period. By the laws of growth of the child and the complete requirements of society special vocational training should be almost wholly excluded from this period. In the elementary period specialization in vocational education with reference to sex is certainly valid, elementary variation in vocational knowledge, power, and skill is, of course, desirable, but the variation is rather in the direction of degree of these elementary powers than in the direction of kind for it is obvious that variation with reference to kind of knowledge, power, or skill involves a selection of vocation which at this early period cannot be without serious danger of error. The explicit objections to vocational specialization, farther than we have indicated, are as follows: Neither body nor mind of the child is ready for industrial exactions at this early period. There are other social demands of greater value which must not be neglected. The child has not reached a period of maturity in which it is safe to select his life-work. Narrow specialization in early youth will be more likely to limit than to enlarge the individual power, even in his specialization. There is a better period in which this work can be done, and it is simply a matter of better labor laws and better compulsory-school-attendance laws, and their wise enforcement, to retain children in school until they have attained any desirable degree of social efficiency. If high levels of manhood and womanhood and society are to be reached the movement must be rather away from specialization in the elementary periods except in those cases where the variations develop early, where the variation is demanded by society, and in which the specialization will not interrupt the acquiring of the complete social culture which will fit the individual for his whole

sphere of life. As we have seen, the only kinds of specialization which comply with these tests in the elementary period are physical specialization with reference to sex, vocational culture with reference to sex, and a limited amount of æsthetic culture with reference to the individual. Farther than this, variations in education are aimed either to equalize the individual differences to the social requirements of universality or are elementary variations aiming to lay a general foundation for the several lines of narrower specialization later on in the course.

It must be remembered, finally, that education is not a closed science—not even an exact science. Educational aims more than those of any other science or profession must acknowledge the fact that they are approximations, but below these approximations after all lie the great general principles which point the direction of truth, and in accordance with which all such questions as specialization must be relatively determined. These principles are the ultimate social demands as to variation or unity of function, the initial variations of the individual, and the laws of individual growth, none of which can be ignored with impunity.

TOPIC: CHILDREN DIFFER IN PHYSICAL CONDITION

I. HEALTH AND EDUCATION

THOMAS F. HARRINGTON, M.D., DIRECTOR OF SCHOOL HYGIENE, PUBLIC SCHOOLS, BOSTON, MASS.

The health problems in education are many; nevertheless, when we analyze them, we find that the overheating and the poor ventilation, the improper lighting and the misfit furniture, as well as the poorly nourished and the mentally retarded, the physically unfit and nervously unstable, the neglect of exercise and the abuse of athletics, separately and combined, become important only so far as each affects the working capacity of the individual or group of individuals. In other words, the efficiency of the work performed is the measure of the importance of each of these factors in the so-called "school diseases." Work, therefore, is the criterion of education as it is of health.

An important factor in all work, whether mental or physical, is that each individual has his biological limit, dependent upon race or family characteristic. Few probably ever reach their limitations, so wisely has Providence placed the margin of safety by its duplication of organs and by its superabundance of fluids and tissues; nevertheless, the unmistakable lesson of all nature is that the highest development and the soundest health lie in the knowledge of how much the brain and the muscles, or either, may be stimulated to activity without injury and *within its own limits*, rather than in the striving to develop either brain or muscles so as to reach a fixed standard within a specified time. Here lies the keystone of a rational educational system.

In children there is imminent danger of overpressure, because here the danger signal of overwork—fatigue—is not so likely to be noticed. On the contrary, the toxic effect of overwork is usually irritability, and this excitation is often mistaken for brightness and zeal and is encouraged and fostered. For this the schools have been censured greatly.

The greatest hope of establishing a national understanding of a healthy way of life, as well as the most hopeful point of attack of present-day evils, is

unquestionably in the schools. Here, beginning in the earliest years of life, the inculcation of the simple rules of health and the practicing of the principles of cleanliness, fresh air, and work for five hours in the day must make for health, happiness, and righteousness to a degree not possessed by any other means.

Without debating, therefore, whether or not it is the particular duty of the school authorities to safeguard the health of those whom it compels to come to its buildings, we can agree that it goes without saying that the conditions and the circumstances surrounding the child while under instruction should be wholesome; and secondly, that it is to the interest of the school, as well as to that of the scholars, to *supplement* the function and the authority of the home in so far as the requirements of each child make necessary. In no case is there any need or justification for the school to usurp the duty of parent or home. This is the principle upon which the health work in the Boston schools has been built. A brief reference to some of the problems common to the school communities and to the manner in which relief measures were carried out will illustrate its value.

HEATING AND VENTILATION

There is no factor more important to the health and efficiency of pupils and teachers than the proper temperature of the room and the constant supply of proper fresh air. This is particularly true in school life because at no other time in life are children confined in such large numbers together for five hours a day. The very activity of their growth precludes the necessity for extra warmth, while the nature of the growth calls for a maximum of oxygen. This is too often overlooked and adults in attendance regulate the room temperature in accordance with adult sensations. The great evil, however, lies in the adoption of systems of heating and ventilation which depend either upon constant automatic perfection in the control mechanism, or upon a supervision far too expensive for constant efficiency. Much ill health and educational waste depend upon this factor of temperature and ventilation. The evil is equally active in homes and workshops. All investigations show a direct relationship between anæmia, nervousness, headaches, and recurrent "colds" and overheated or baked devitalized room atmosphere. The association of anæmia with high temperature is shown by the table on following page.

In 3,009 cases of anæmia, 2,377 were in rooms where the temperature was 69° and over; 321 cases occurred in rooms with a temperature of 68°, while only 235 cases occurred in rooms between 64 and 67° F. inclusive. From the data at hand, a room of not more than 67° F. is unquestionably the best for health and efficiency. In our investigations we found fully as many cases of ill health in buildings equipped with modern plenum systems as we did in buildings heated by direct radiation. The argument against opening the windows for purposes of ventilation has been that the draught thus created gives

RELATION OF THE TEMPERATURE OF ROOMS IN THE DIFFERENT GRADES TO THE NUMBER OF ANÆMIC CHILDREN

Temperature	Grades								
	I	II	III	IV	V	VI	VII	VIII	Total
56	..	..	..	4	..	..	..	..	4
59	..	..	8	5	..	..	..	..	13
60	18	1	..	..	..	..	..	..	19
61	..	..	..	2	..	..	..	..	2
62	8	15	4	6	..	..	..	..	33
63	..	..	..	..	5	..	..	..	5
64	13	15	16	5	6	2	18	3	78
65	7	2	3	15	..	9	..	..	36
66	13	6	17	4	30	7	2	3	82
67	6	11	2	8	11	1	..	..	39
68	55	44	31	72	34	29	37	19	321
69	78	63	56	95	54	35	59	36	476
70	45	132	100	127	81	90	51	39	665
71	65	20	18	23	26	22	18	29	221
72	81	106	64	2	26	78	30	14	401
73	..	1	4	47	21	19	6	7	105
74	79	57	5	58	43	10	6	8	266
75	5	..	..	21	66	2	..	14	108
76	14	13	4	10	26	6	2	..	75
77	..	2	4	..	..	..	..	..	6
78	6	6	10	1	4	4	5	..	36
79	..	..	5	4	1	..	..	..	10
80	..	..	1	..	..	7	..	..	8
	493	494	352	509	434	321	234	172	3,009

children fresh "colds" or that the plenum system is deranged by such opening. The remedy found effective was the establishment of periods of physical exercises at a fixed time in each session during which windows thruout the buildings were thrown open, top and bottom. By this arrangement the janitor was able to regulate the extra requirements put upon the heating and ventilating system by means of the open windows. This relief measure in the elementary grades is in addition to the regular recess airing during which the same process is repeated. Organized recess games and plays by grades have been found a most effective means to insure each child an opportunity to participate in outdoor recreation. The teachers go into the yards with the children and lead the games, thus partaking of a preventive measure which so many teachers have neglected.

In the high schools, a ten-minute setting-up drill in the middle of the session offers the opportunity for a similar arrangement. This drill is given by room captains, boys and girls, in whatever room or laboratory the daily program brings the classes at the appointed time each day, usually between the second and third periods. The reports have been uniformly favorable to this method. It has had the effect of emphasizing the importance of fresh air and deep breathing; the thermometers are watched closely by pupils and the temperature record kept for public scrutiny. The number of illnesses

and the days of absence have decreased markedly and a mental alertness is more manifest. In the high schools the time for this drill has so shortened the periods of interchange of classes that loitering in corridors and study-rooms has disappeared wholly. The whole scheme has been a most effective preventive measure in combating disease without overemphasizing to children the fear of any one particular disease. It gives the child an opportunity to build up a constitution in which the ubiquitous germs can be successfully combated.

The following experiments illustrate the possibilities of employing the principle of fresh-air schools for those physically unfit to bear the enervating influence of crowded classrooms. Eighteen pupils, whose frequent absence on account of ill health made school life unprofitable, were assigned to an outdoor class in the school-yard where movable seats and desks were arranged upon platforms. The regular work of an ungraded class was carried out. Each child was given an opportunity to procure a luncheon at a very low cost at each session.

The total gain in weight for the class was eighty-one pounds, the lowest gain being one pound and the greatest ten pounds. The average gain for the class was $4\frac{1}{2}$ pounds. The number of sessions of absence for these children was reduced from 583 in the previous three months to 39 during the outdoor sessions.

Another experiment, but dealing with purely tuberculous children, shows more strikingly the association of fresh air and health. A class of twenty tuberculous children was assigned to the roof of one of the buildings of a public park. Regular ungraded school work was carried out. The children did not go home at noon but had luncheon served, at a nominal cost to them, at the school. Periods of rest were enjoined and sleep in storm-bags and blankets encouraged during the after-luncheon period at noon. During the year 1908–1909, fifty-seven pupils were assigned to this class, each new pupil taking the vacancy occasioned by the transfer of a cured case back to the regular grade. Thirty of the fifty-seven were discharged as cured and returned to the regular class without loss of academic standing; three were promoted beyond their former classmates. Each cured case has been examined every two weeks since and none has shown a return of the tubercle bacilli nor a failure to progress in weight. This hospital school has today seventy-six pupils and is under the immediate jurisdiction of the Boston Consumptives' Hospital Trustees, an arrangement which permits of feeding and storm-clothing without the intervention of school or private charity.

These two experiments have resulted in a wider health measure. In December, 1909, the superintendent requested each grade teacher and school nurse to select from the pupils in their rooms all those considered to be suffering from anæmia, chorea (St. Vitus' Dance), palpable glandular enlargement, and those who are relatively undersized or who had returned to school after a recent illness. All these pupils were then referred to the medical inspectors

for an opinion as to the advisability of placing them in open-air classes. The results of this survey by grades is as follows:

Total number of pupils inspected..... 90,000
Total number selected by teachers and nurses..... 5,043 (5.6 per cent.)
Total number approved by medical inspectors for fresh-air classes..... 4,489 (4.98 per cent.)

	Ungraded	Kindergarten	I	II	III	IV	V	VI	VII	VIII	Total
Anæmic	127	86	550	470	381	496	438	334	246	170	3,298
Choreic.....	5	5	40	40	40	35	29	42	33	12	281
Glandular...	17	8	63	89	67	81	69	52	43	27	516
Undersize...	9	21	68	51	39	74	61	50	34	23	430
Recently ill..	32	30	96	82	60	59	55	39	33	32	518
	190	150	817	732	587	745	652	517	389	264	5,043

Reduced to percentages, this means that out of the 5,043 or 5.6 per cent. who were thought to be in ill health, more than 65 per cent. were suffering from anæmia, 10 per cent. from glandular enlargement, 10 per cent. had been ill recently, 8.5 per cent. were undersized, and 5.5 per cent. were choreic.

The illness by grades was as follows:

	Kgn.	I	II	III	IV	V	VI	VII	VIII
Percentage of total illness.....	2	16	14	11	14	12	10	7	5

Each of the 5,043 pupils selected by the teachers and nurses was followed to the home by the school nurse with the object of learning any probable home causes for the ill health. The findings are important because they present the actual conditions as observed by the school nurses who, from frequent visits to the homes and from their personal knowledge of all the factors, were able to estimate rightly the findings and the conditions in each case. This is far different from drawing conclusions from answers received from direct questioning of parents and children when the respective school neighborhoods know that an investigation is on foot.

The thirty-four school nurses of the Department of School Hygiene had visited 22,292 homes of school children during the year prior to this special investigation; they had taken, by the request of the parent or guardian in every case, over 2,500 children to dentists and over 9,000 children to the hospitals; they had referred 7,500 children to the family physicians, and in many cases when the mother was unable to make the visit with the child, the nurse fulfilled the duty. In addition to this co-operation with the homes and parents, the school nurses had rendered over 36,000 dressings for affections among pupils referred to them by the school physicians; and had secured the correction of 3,377 cases of defective vision and 848 cases of defective hearing. All this co-operation has resulted without one complaint of interference, usurpation,

or weakening in any manner the unity and the sanctity of the home. I emphasize this fact not so much to strengthen the report of the nurses as to bring out clearly the degree to which co-operation of the school with the home is possible, and more especially to check, if possible, the growing tendency today to acknowledge that the home life has disappeared. In Boston, at least, such a condition of society does not exist.

Among the 5,043 children selected as probably ill, the nurses' reports show that 3,531 came from homes classified as "good," while 1,512 came from homes classified as "poor," or 70 per cent. and 30 per cent. respectively. Ninety per cent. of the children ill with chorea came from good homes. The home factors entering into the possible causes of ill health were varied and multiple. In the absence of any fixed standards, it would be unprofitable to enumerate those factors, other than to restate the social and economic causes of ill health already given in this paper. Overcrowding, poor ventilation, lack of sufficient sleep, and indifference to ordinary laws of hygiene, sanitation, and feeding were very constant factors noted.

The result of this investigation has been that the School Committee has voted to establish in certain districts one or more schoolrooms capable of arrangement so as to offer to the class of children referred to above the advantages of the maximum of fresh air and sunshine during school hours. All new buildings are to have rooms similarly arranged. The assignment of children to these fresh-air rooms is separate and distinct from the hospital class for the tubercular. The reason for this is obvious. Genuine demonstrable tuberculosis among school children is much more rare than many published reports would indicate. The anæmic, the glandular, and the under-sized are included, no doubt, in many estimates of tuberculosis among children, and in all probability such children are infected, at least they are of the more susceptible class; nevertheless, the association of these special rooms for fresh-air classes with genuine tuberculosis would defeat greatly the object of the undertaking.

One of the constant forerunners of serious illnesses, especially the systemic disturbances such as tuberculosis, diabetes, heart diseases, etc. among school children, is a failure to gain in weight or a loss in weight. Parents recognize this and are always ready and eager to co-operate to bring about a gain in weight. In order that this co-operation may be secured easily for the welfare of the child, the School Committee has placed scales and measuring rods in the various school districts, and teacher, nurses, and pupils are encouraged to make the freest use of the same. The regular record of weight and height forms a part of the clinical record card kept by the school nurse. These scales are to be used also for a scientific investigation for a series of years, in order to learn the normal ratio of growth and weight of the same group of individuals during schooling years. This installation of scales offers a means of gaining accurate data upon the perplexing problem of dealing with the so-called underfed school children.

There can be no question about two facts: first, that in every community there are many poorly fed children; and secondly, that the physical and the mental growth would be increased greatly by better methods of feeding. Here again we lack fixed standards, both in the nature of the food required and in the quantity. Fixed habits, dependent upon age, climate, racial and national customs, cannot be overlooked. The demonstration and advice by school nurses have helped to carry into the homes the lessons along lines of better dietary taught the children in the schools. Demonstration classes in cooking and dietary are to be established for parents whose children have been selected for open-air classes. The underfeeding among children from poor homes is not due to neglect so much as to lack of knowledge in the homes and to the overburden of parents from many other duties. A great part of the underfeeding among all classes is not due to poverty; neither is anæmia an index to nutrition. This is shown by the following data furnished by the school nurses. In our investigation, 3,375, or two-thirds of the children in ill health, had good breakfasts; 1,668, or one-third, had poor breakfasts. A good breakfast consisted of fruit with bread and butter or eggs and milk or cocoa, or cereal with milk or cream. A poor breakfast included either some picked-up or made-to-order food without milk and in nearly every instance tea. Among the children said to have a poor breakfast, 1,155, or 69 per cent., came from good homes while 513, or 30 per cent., came from poor homes. Few, if any, of this latter class were without money to procure something for breakfast. Too often, the money was spent for pickles or candies. By far, the most common and pernicious factor in this whole problem is *tea-drinking* among children. In the form and in the quantity now indulged in by growing children, it ranks very high as a cause of much of the ill health present today. Its use is now so firmly fixed among all classes of school children that its eradication will require the combined effort of every agency at our command. It is a great national evil. Until information in the home is more enlightened on the value of the most common and inexpensive articles of food, as well as on their best preparation, it is futile and unwise to consider any general relief measures for bettering, by means of free school luncheons, those in our schools who are undersized and anæmic. These last two conditions are not necessarily associated always with underfeeding and poverty. The greatest good would result if all school children were given an opportunity to procure, at a minimum cost during the daily recess, such simple articles of food as fruit, rice, puddings, custards, bread and butter, cookies, prunes, apple sauce, milk, cocoa, ice cream, and, if possible, soups. To offer free luncheons to school children is evidently not the solution, as it postpones the real effective agent, namely, the education and the stimulation of the home. From the data at hand, we are warranted in the conclusion that there is no need for the school to undertake this evident duty of the home and of public relief associations.

One of the most effective means in impressing upon pupils and parents the importance of this duty, as well as the allied health problems of cleanliness,

fresh air and sunshine, exercise and rest, food and drink, was the establishment of "Health Day." The School Committee of Boston established such a day and a program was carried out in all the grades from the kindergarten to the Normal School, emphasizing in each the importance of some particular line of health work, including demonstrations in physical exercises, games, and plays, as well as in home nursing, cooking, food values, and economics.

Bearing directly upon the problem of the poorly nourished and the physically ill is the greater national problem of the physical status of the youth of our country. Data upon which to base an opinion are very meager in this country. In 1876 Dr. Bowditch made a series of measurements of Boston school children. I have collected 1,418 (boys 763, girls 653) measurements of boys and girls born in Boston, both of whose parents were born in Boston. All these children were attending in 1900–1909 the same schools from which Dr. Bowditch drew his measurements. It is very probable that these two sets of measurements represent, in many instances, two generations of the same family.

AVERAGE HEIGHT IN INCHES

Age	Boys		Girls	
	1876 (Without Shoes)	1906 (With Shoes)	1876 (Without Shoes)	1906 (With Shoes)
7	45.74	46.2	45.52	46.5
8	47.76	48.	47.58	48.4
9	49.69	50.1	49.37	50.1
10	51.68	51.8	51.34	52.2
11	53.33	53.6	53.42	53.7
12	55.11	55.3	55.88	56.3
13	57.21	57.09	58.16	58.5
14	59.88	59.8	59.94	59.6

AVERAGE WEIGHT IN POUNDS

7	49.07	48.95	47.46	48.2
8	53.92	52.94	52.04	52.7
9	59.53	57.6	57.07	57.2
10	65.30	63.47	62.35	64.3
11	70.18	70.5	68.84	70.7
12	76.92	78.	78.31	79.9
13	84.84	86.1	88.65	90.
14	94.91	98.8	98.43	97.8

Two thousand weights of Boston schoolboys, ages seven, nine, eleven, and thirteen years, taken at random from the data collected, show in the comparison with the average weight of Boston schoolboys in 1876 the following:

Age Last Birthday	Weights	
	1876	1900–1906
7 years	49.07 lbs.	48.2 lbs.
9 years	59.23 lbs.	57.6 lbs.
11 years	70.18 lbs.	70.0 lbs.
13 years	84.84 lbs.	86.4 lbs.

The further study of these data is being pursued and the results will be published. In the meantime it can be asserted quite positively that the present generation of our school children does not appear to be deteriorating physically. On the contrary, the girls are probably taller and, so far as our present data have been studied, heavier than girls of corresponding ages in 1876.

Time does not permit further consideration here of the problems of school furniture, playgrounds, school athletics, or physical training—all bona fide educational subjects. Neither can the question of the care of the tuberculous nor the control of the "carriers" of diphtheria, which exist to the extent of 1½ per cent. in our schools, be satisfactorily set forth in the limited time left at my disposal. A detailed report of each of these subjects will form a part of our school documents.

The more closely one studies the whole problem of health and education as applied to pedagogy, the more evident it becomes that in the near future, the present system of education in this country will have to be rearranged. Medical science is now prepared to offer aid and advice for a healthier expansion. Many fixed traditions and cherished legacies may have to be sacrificed. Already continuation schools are demonstrating the great educational, as well as industrial and physical, waste of repeated, prolonged interruptions in serious work. With pupils thus under school supervision during the summer months, greater attention will be given to the importance of the rapid growth in children's height during those months. The disregard of this physiologic demand of nature has resulted in many nervous wrecks, and calls for a radical transfer of the enervating influences of the June examinations and of the promotions in September to a time in the child's seasonal growth less unstable. The keynote of this convention—children differ—emphasizes the educational error of fixed grading, especially in the lower grades. Recent medical discoveries suggest that the chronological age is no criterion for the continuation of this custom; the daily observations in school and in the physician's consulting-room prove that fewer discouraged backwards, choking the progress of lower grades, less time for latent criminality to find its opportunity in idleness, a better opporunity to direct rightly precocity, and the surest means of averting the storms of puberty would result by a freer transfer of pupils from grade to grade with a suitable "clearing-house" check at possibly the sixth-grade age. In the attainment of some such pedagogical system lies the highest usefulness of the great free offerings of our public schools. The present unrest is propitious. In the future lie inestimable gifts awaiting the approach of pedagogs and physicians, education and health.

II. COMPETITION AND CULTURE

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No one doubts for a moment the stimulating influence of competition in all lines of mental and physical activity. It matters little whether the competition is in business, education, or sport; as soon as one man or a group of men is arrayed against another, all act with greater zeal and energy. The philosophers tell us that the reason for this increased effort when opposed by a rival or competitor dates back to primitive conditions in the remote past when one's life and belongings often depended upon the result of a personal contest. So thoroly has the necessity for moving and doing as a basis for living been ingrained into our organism that these impulses to activity have become a part of our natural inheritance. We now know that the apparently aimless and endless motions of head, trunk, and limbs, and the grasping, biting, striking, and kicking in which every infant child so constantly indulges, are only nature's efforts to enable him to perfect and develop his psycho-physical organism so that he may maintain a footing in the world and adapt himself to his environment. So soon as he has sufficiently perfected his bodily organism to enable him to move about and come in contact with persons and things, a new impetus is given to his development. Then when the child's acts become purposeful and he begins to assert himself, he learns for the first time what it is to come in contact with another purposeful will, and his education for life really begins. His impulse to fight, to struggle, and contend is thoroly aroused, and thru his childhood's plays and games and his youthful sports he finds numerous opportunities for testing his powers in comparison with others—receives many and forcible suggestions as to the need of further adjustments of his organism to its surroundings. In a word, is not this an epitome of life and a simplified representation of the process of human development?

All thru the ages the simple forms of life and labor have afforded ample opportunity for fostering the struggling and contending spirit. The old-fashioned contests in spelling and mental arithmetic and in prize speaking and debating afforded to the youth of a century ago a great incentive to mental effort, and many of the leading men of the country were trained and developed by this kind of stimulus. The events in which men have competed in the past for physical supremacy are so numerous as almost to defy enumeration, and some of them are so trivial as to be hardly worthy of it. Wood-chopping, log-sawing, hoeing, spading, mowing, reaping, corn-husking, wool-gathering, and brick-making are some of the primitive industries that have often lent themselves to competition, and excited the greatest interest and rivalry. Putting the stone, throwing the hammer, tossing the caber, and the impromptu boxing and wrestling matches held on the village green, "when sleights of art and feats of strength went round," were some of our present-day athletic events engaged in a hundred years ago. These rough-and-ready contests

in the field, on the common, in the schoolhouse, at the corner store, and at the county fair ground were about the only means afforded young men in those days for "sizing themselves up" as it were in comparison with others, and many an aspiring youth has had the conceit taken out of him, and been given a new start in life, by meeting a "better man" in these primitive struggles. Now the primary object of these early contests was not to discover who was the best reaper, corn-husker, or wood-chopper, or even the best boxer or wrestler—for after a fashion these were all common activities—but the object of the greatest interest was to determine who was the "best man." This term was in such common use in connection with all athletic contests in the past that it has been incorporated into the very language and literature of sport. We sometimes hear the term used today in connection with athletics, altho it is more frequently used in referring to the best man at a wedding ceremony. It is interesting to learn from Darwin that originally the best man was the chief abettor or muscular backer of the bridegroom in the act of capturing a wife, when wives were procured in that way.

With the division of labor and the multiplication of employments and industries has also come a great increase in the number and variety of sports. The eagerness and the intensity of the competition in trade and business has been imparted to our sports and pastimes, and many of the questionable methods pursued in the conduct of competitive games have been borrowed from the business world. The great public interest aroused in sports, thru the growing need among the people for more physical vigor, has also tended to intensify and exaggerate the importance of all competitive sports and contests. Athletic contests imply a struggle for supremacy between two parties, which only one party can win. One party will consequently experience the joy of victory and the other party the chagrin of defeat. The greater the publicity given to these contests thru popular interest and the daily press, the more intense these emotions grow and the more difficult it becomes to keep the contests within reasonable bounds. Victory is now accepted as the one and the all-important thing, and everything else is made subservient to it. This leads to professionalism, foul tactics, overtraining, the do-or-die or anything-to-win spirit, and even to the claiming of heights never climbed, distances never covered, victories never achieved. A host of evils follows as a natural consequence. Some of these evils may be briefly enumerated as follows: a tendency to specialize in single sports, and narrow the field of physical education; too much time, money, and attention given to the development of the major sports like football and baseball and too little to the development of the minor sports like gymnastics, lacrosse, cricket, association football, fencing, boxing, wrestling, etc. In this connection it may be well to observe that the major sports, so called, are those that attract the greatest popular interest and draw the largest gate receipts—not those that are most valuable from a developmental or educational point of view. The present method of selection picks the best men for the major sports and leaves the

rest to the minor sports, without training or pecuniary resources. The high standard of all the popular sports puts them beyond the qualifying efficiency of the average student. All of our sports are pursued too much as ends in themselves rather than as means to ends—and those ends the general improvement and harmonious perfecting of the human organism.

A great deal has been done in many of our secondary schools and colleges for both sexes during the past twenty-five years toward the attainment of these ideals, and the progress that has already been made leads the author of this paper to have great hopes for the future. We have been so much occupied in fostering the spectacular or advertising side of athletics, and contending with the evils growing from over-competition, that we have almost entirely neglected the educational or cultural value of these important agents of youthful development. We hear a great deal at the present time about the desirability of a pleasing personality in the teacher and professional man, the advantages of a genial nature, a courteous manner, a fine carriage, and a manly bearing. What is the meaning or worth of an athletic trophy or medal, a college diploma or a school certificate, if they do not stand for noble conduct and sterling character as well as for physical and mental efficiency? What is it that makes victory so pleasurable and defeat so hard to bear, except our tickled vanity and pride, and our wounded feelings and self-esteem? Many of the highest moral qualities, such as courage, fortitude, forbearance, generosity, magnanimity, and nobility of character, may be cultivated on the athletic field; while presence of mind, health, strength, poise, and endurance, and those lighter tho highly serviceable qualities such as skill, grace, alertness, and flexibility—all come into the possession of the physically perfected gymnast and athlete. Now it seems to me that we should so conduct our school sports and exercises as to emphazise their educational and cultural value and put less stress upon the competitive element that enters into them. As unregulated competition is not the life, but the death, of trade, so unregulated competition in sports tends not to their preservation but to their destruction. The history of rowing, baseball, boxing, wrestling, football, and basket-ball in America is the history of an almost continuous fight that has been carried on in behalf of these sports to preserve them from extinction. The problem is how to get the stimulating effect from the spirit of competition, and yet avoid its evils and destructive tendencies. The first remedy which I would suggest is to make competition in all sports less intense and more diffusive. That is, do not put so much stress upon the time made, the height jumped, the game played, as upon the number in the school that are engaged in making some serious athletic efforts. In order that all of the pupils in the school may get some of the mental, moral, and social advantages as well as the physical advantages of the competitions, the contests should be arranged in groups, so that each one according to his ability could do his share toward helping to win a victory. Then, in order that no particular line of natural ability on the part of the pupils may be favored in the contests, they should be made

to include a liberal variety of athletic events. By so doing, those who could not do well in one type of performance could make a more creditable showing in something else. This method may be applied to gymnastics as well as to athletics, and wherever it has been tried it has brought about a better school spirit and developed a higher average moral and physical tone among the pupils. As a means of doing away with the evils and preserving the good there is in athletic competitions, the group method has great possibilities and much to commend it. But in all sports as well as in all physical exercises the qualities most required are the qualities that will be most intensified and developed. A failure to recognize this fact and to act upon it deprives our present system of athletics and gymnastics of a great measure of their educational value to the individual student. A boy comes to school or college from the farm. He is large and strong, but awkward and clumsy in all of his movements. He needs to be made more flexible, more graceful, more refined. In other words, he needs physical culture in its best sense, and not physical torture. By the method of natural selection now prevailing in athletics, he is chosen for the position of guard or center rush on the football team, or to put the shot, throw the hammer, or row on the crew. In either case he will have to get rid of some of his awkwardness and clumsiness if he succeeds as an athlete, but is he getting the training that he most needs to round him out and perfect him as a man? Another boy is tall and slender and needs to put on weight and acquire more strength. He is selected for a middle distance runner or a high jumper, and bends all of his energies to qualify as a competitor in these events. Here again the boy sacrifices his opportunity to develop himself as a man in order that he may perfect himself as a high jumper, pole vaulter, or some athletic specialist. I have cited but two illustrations, but I could give a dozen more did the time permit, to show where the best culture for the man is neglected, in order that he may find more time to practice some single sport in hopes of winning honors for himself and his school or university. In some of the eastern colleges the competition is so keen and the time and energy given to the preparation for athletic contests are so excessive, that the faculty have restricted the number of major sports to two in which the same student may enter as a contestant. Altho this restriction of competitors to two sports may prevent a few students from injuring themselves from overtraining, it intensifies the evil for the majority of students by taking away the stimulus for practicing a wider range of athletic exercises. To encourage too narrow and too early a specialization is not only a mistake from a cultural point of view, but even from an athletic standpoint. Page, Sweeney, and Dray, who have held world's records in their athletic specialities as high jumpers and pole-vaulters—all preceded the practice of these events by a long period of all-round exercises and general gymnastic training. I could mention many more distinguished athletes, amateurs and professionals, who have pursued the same course. We now know that this method, which has been largely empirical on the part of many athletes, has a solid scientific foundation.

The recent laboratory experiments of Keith Lucas, a Fellow in Cambridge University, England, have proven conclusively that the muscle fiber and not the muscle as a whole is the unit of action, and in order to bring out the full working capacity of all the muscles and increase their tone and improve their innervation, that body and limbs must be subjected to extreme flexions and extensions, and to the greatest possible variety of movements. If these later-day deductions of the physiologists are true they furnish further arguments for broadening our conception of physical education. Not only must the ordinary round of light and heavy gymnastics be taught to all of our school children as a matter of daily routine, but they must be taught and encouraged to practice the greatest variety of youthful sports and games. Walking, running, jumping, skating, swimming, diving, rowing, canoeing, bicycling, dancing, fencing, and the various forms of ball-playing are essential parts of a boy's neuro-muscular education. If he does not learn these sports in his youth, he is not likely to take them up when an adult for fear that his bungling efforts may excite laughter and ridicule. In learning and practicing these different sports there is a training and a culture which comes to the boy which he cannot get in any other way. This experience becomes a part of his psycho-physical organism. As a preparation for life no amount of book learning will ever compensate for the loss of it. This is the testimony of hundreds of men now living who were deprived of this training in their youth. The developmental and hygienic value of all forms of physical exercise has long since been recognized, but the educational value of many of them has not been fully appreciated until quite recently. The recognition of gymnastics as a fine art, to be classed with music, speech, construction, sculpture, drawing, and painting, as modes of expression, has done much to bring this fact to the attention of the public. In order that the cultural value of various kinds of gymnastics and athletics may be fully brought out, the nicest regard must be given to form in the method of executing the exercises. The Germans and the French have long worked for ideals in their gymnastics as they have in their music and sculpture, and the Swedes, Norwegians, Danes, and Finns have actually attained a precision, poise, and elegance in their gymnastics which are truly admirable. The American school and college youth are apt to scout at form and finish in their athletics and gymnastics as synonymous with silliness and insincerity, and they often assume a slouchiness of standing and walking for fear that they may be thought to be posing or attitudinizing. Notwithstanding this national custom, the American athletes who attain championship form do their work with the highest degree of grace and artistic finish. Our women have already led off in this new movement with their artistic dancing, and progress along the same line will soon follow as a matter of evolution in our gymnastics and athletics. Order, grade, poise, balance, precision, accuracy, refinement, delicacy, elegance, and beauty may be expressed in action as well as in thought and feeling. When our school authorities recognize the possibilities in physical exercises for cultivating these qualities

as well as the many others that I have already mentioned, they will give these exercises a larger place in the curriculum than they do at present. When our youth realize that it is not necessary to be a dude in order to be a gentleman, or a tough in order to be an athlete, a great victory will have been gained. Then they will realize that they can get all of the rough and strenuous work that they want, without making their games brutal or revolting, and that they may display their skill, strength, and daring in sport without resorting to the tactics of the mucker or the bully. In fact, they will learn that the true sportsman may be a gentleman on the track and on the field as well as in the drawing-room and parlor. Some of us believe that our youth may even be taught to play football and basket-ball and still be gentlemen, tho it may require some amending of the present rules to make this possible. Finally, the public itself must realize that the sports, games, and physical exercises of our school and college youth are not conducted primarily for the amusement of the masses, but for the physical education and the all-round training of the sons and daughters of the republic that they may be better able to meet the duties of life and the responsibilities of citizenship. In order to keep up to the high ideals and high standards in physical education of which I have spoken, the crying need of the hour is for special teachers of both sexes of recognized character and ability. No class of teachers in the community at the present time are more sorely needed, and none can do more good if well qualified or more harm if poorly qualified than the teachers of physical education. Let us lift this great subject out of its crude, spectacular stage and put it on a sound educational basis. Let us give less attention to the exploitation of the strong, and more attention to the instruction of the weak. Let us give courage to the timid, energy to the feeble, grace to the awkward, and hope to the despondent. Let us teach more of the people that life is really worth living, if they will only learn to live normally, fully, wisely, and well. Many of the truths which I have presented to you are now coming home to thousands of the community of both sexes, young and old, thru their everyday experiences. Upon the general recognition of the importance and possibilities of the physical activities as adjuncts of education, culture, and development depends much of the usefulness and prosperity of our schools and colleges; and in the practical employment of these physical activities under intelligent direction on the playground, in the gymnasium, and thru industrial and vocational training depend the health, vigor, and prosperity of the American people.

III. THE PRINCIPLE UNDERLYING MODERN PHYSICAL EDUCATION

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It is a pertinent time to inquire into the principle of physical education if we can find it. Our day is showing a quickening of the physical as well as

the moral conscience. The call to the out-of-doors, the increasing biological study of the body since Darwin's time, the recognition of the place of play in life, the use of vacations, the growth of the movement for open-air playgrounds and gymnasia, the large field of sport, the enthusiasm for athletics in school and college, the demand for athletic reform, the movement for pure food and pure drugs, the increasing amount of travel—all indicate that the physical element of life is emerging into conscious, if chaotic, recognition. An ordering principle is needed by such an unordered situation. Indeed the exuberance of our physical life in the nation and in the nation's schools raises the question of proportion, balance, and harmony among the physical and mental values. And this again is a question of principle.

I. THE PRELIMINARY POINT OF VIEW

As an introduction to the organizing principle, whatever it may be found to be, I suggest that we consider the matter from the standpoint of the evolution of the physical and psychical organism. Without going into the details of controversial theories, it is perhaps best to state at once what seems to be the soundest conclusion in this field. It is this: body and mind have evolved together. Evolution, however it comes to be written in detail, is a psycho-physical phenomenon. Body and soul—the term soul being here used as synonymous with mind—have grown with each other. Comparative anatomy, coupled with comparative psychology, indicates a correspondence between the developing nervous systems of related organisms and their degrees of intelligence. Human anatomy and child psychology likewise can parallel body-growth and soul-growth. We seem not to have at first a finished soulless body, waiting to be animated, nor yet a finished bodiless soul, waiting to be incarnated; but first, last, and all the time, a body and soul, mutually dependent, beginning, living, and growing together. Their unity is life, their separation is death. We know no mental beginnings without body; we also have no bodily beginning without mind. The prenatal life of the body is without doubt accompanied by such mental experiences as emotions of pressure, motion, touch, and warmth. Like union and liberty, body and soul are one and inseparable, until death do them part. The seed of life that transmits the physical characteristics from one generation to the next transmits also the mental characteristics. (Cf. Traducianism.)

The main stages in this joint evolutionary process may be roughly sketched out, following Aristotle in the main. First, the vegetative soul, capable of nutrition, and common to plants, animals, and men; then the appetitive soul of desires and wishes, emotions and passions, common to animals and men; finally the rational soul, capable of abstract thought, æsthetic appreciation, moral character, and religious worship, belonging to man alone. The development of a single human being shows a similar growth—first, that which is natural, afterward that which is spiritual.

In order to keep body and soul apart in origin, growth, and decay, old

philosophies formulated theories of the creation, once for all; of as many souls at the outset as there were ever to be people in earth, or of the special creation of a new soul for each new body at the moment of conception, or quickening, or birth. (Cf. Creationism.)

But at the same time the practical necessity of the body for the soul's existence once they became associated was recognized in the doctrine of a spiritual body for the soul after death, while the universal and indissoluble association of body and soul has in ancient and modern times been maintained by the panpsychists.

The conclusion of this preliminary discussion therefore is: the problem of soul and body is settled by letting them grow together from the beginning, not by first separating them by abstract thought and then asking how they came together.

II. THE PRINCIPLE OF PHYSICAL EDUCATION

The preceding discussion prepares us for stating the fundamental principle of physical education, which is: man's nature is a unity. As Montaigne, thinking for himself, expressed it: "It is not a body, it is not a mind, that we have to educate, but a man, and we ought not to divide him."

What is the character of this unity? Man's nature is indeed complex; he is physical and mental, and his mental nature is complex, being intellectual, emotional, and volitional. But these are all elements in one unitary whole that we call the man. Following Aristotle again, the body is material; the mind is the informing principle; the soul shapes the body. "The soul is form and doth the body make," as the poet Spenser has it. Without the soul the body is mere material, dead; without the body the soul is pure form; together they make man. The body is the soul's home; the soul is the body's citizen. The body is the soul's only medium of self-expression; the soul is the body's most useful organ.

Leaving behind figures of speech and the difficult concepts of form and matter, and simply reporting the language of common experience, the unity of human nature means that the condition of the body is due to mental as well as physical influences; that the condition of the mind is due to physical as well as mental influences; that the condition of the man is the sum-total of his bodily and mental conditions.

We must next see the bearings of this principle of the unity of human nature upon physical education.

III. CONSEQUENCES OF THIS FUNDAMENTAL PRINCIPLE

There are several consequences that flow from one fundamental principle. The first is: The body does not exist as the incubus of the soul—this is the mistake of asceticism—nor again merely as the soul's tool; but also for itself. Likewise, the soul does not exist merely for the body's sake—this is the mistake of modern Epicureanism in its various forms. On the contrary each exists for both, the body for itself and the soul, the soul for itself and the body.

Neither is called upon to sacrifice its highest life for the other; the best life for each is the best life for both—they being one.

A further consequence is the unity of education. Physical education is also mental education, and mental education is also physical education. Training the body is changing the soul's means of self-expression; training the soul's purposes involves giving a new set to the nervous system. As human nature is one, so human education is one, and physical education needs mental education for its perfection as mental education needs physical education for its perfection. Physical and mental education, the gymnasium and the class-room, the athletic field and the debating forum, the recess and the study-period, play and work, are two sides of the single educative process. The unity of education appears especially in manual training and all forms of educative tool, shop, and form work.

IV. DEFECTIVE TYPES OF PHYSICAL TRAINING

In general, the error consists in disturbing the balance between the physical and psychical values; viz., the development of the body at the expense of the mind and the development of the mind at the expense of the body. We want body and soul well attuned.

The two main elements of old Greek education, initiating and partly causing the Periclean age of physical, intellectual, and æsthetic conquests, were music and gymnastics, music for the soul and body and gymnastics for the body and soul. Either one without the other would have produced a defective type. As Plato puts it in his *Republic:*

"Neither are the two arts of music and gymnastic really designed, as is often supposed, the one for the training of the soul, the other for the training of the body."

"What then is the real object of them?"

"I believe," I said, "that the teachers of both have in view chiefly the improvement of the soul."

"How can that be?" he asked.

"Did you never observe," I said, "the effect on the mind itself of an exclusive devotion to gymnastic, or the opposite effect of an exclusive devotion to music?"

"In what way shown?" he asked.

"The one producing a temper of hardness and ferocity, the other of softness and effeminacy," I replied. . . . .

"He who mingles music with gymnastic in the fairest proportions, and best attempers them to the soul, may be rightly called the true musician and harmonist in a far higher sense than the tuner of things."

"You are quite right, Socrates."

"And such a presiding genius will be always required in our State if the government is to last."

"Yes, he will be absolutely necessary."

"Such, then, are our principles of nurture and education."—(*Rep.* iii. 410 B—412 A.)

In our day the unity of education has been disturbed, to the detriment of both body and soul. On the one hand we have a development of the body at the expense of the mind, leading to such results as athleticism, the making

of gymnasts and acrobats and the gathering of huge crowds at football contests and prize-fights, where, in the name of the body, the body is abused, thru the lack of mental element. This overemphasis has resulted in moral injuries as well, such as the desire for victory at any cost, the turning of a contest of skill into a gamble, the introduction of a large and disturbing financial element, the overpraise of young victors, the destruction of the ideal of sport for its own sake, the cultivation of the sentiments of animosity instead of generous rivalry respecting the opponents, the undemocratic training to a finish, perhaps the overtraining of a selected few who least need it, at the expense of the many who most need it, the sense of justification in neglecting weightier school and college matters, and the perversion of the true perspective in human values.

On the other hand, we have a development of mind at the expense of body. This particularly is the defect of the studious type in school and college. Athletics being for the few, not the many, but still engrossing the interests of the institution, the studious seek a distinction in scholarship. Unfortunately such distinction is too little esteemed by their fellows and too little rewarded by the faculties. The faculties have not harmonized the conflict between the physical and mental values as they might have done partly because they are themselves affected with the athletic craze; partly because their hands are tied by the authorities higher up who want victorious teams as advertising agents; partly because the situation is controlled by alumni in the world who want several annual great and exciting spectacles. This all means that athleticism has usurped the place of physical training; that its worldly ideals too often control student-body, faculty, trustees, and alumni alike; that institutional honors go to the gridiron hero, not to the honor man; that the honor man himself is insufficiently trained physically; that his scholarship is pale, anæmic, and smelling of the midnight oil; and that the studious element, while still young, is left too much to the bare satisfaction of finding virtue its own reward.

Thus while physical training has pulled away from the unity of education in one direction, narrowing itself into athleticism, demanding victory for an elect five, nine, or eleven; mental training has likewise pulled away in another direction, narrowing itself into an exclusive and pallid scholarship. The educational house is divided.

V. TRUE EDUCATIONAL AIMS

It is time for us to hear and to heed in education the lesson of the unity of human nature, the joint evolution of the physical and mental being. The aim of physical training is to make the body not an end in itself, but both a joy to itself and the usable tool of the soul. Every student should feel physically with Browning "the wild joys of mere living" and think with Aristotle that "good things have been divided into three classes, external goods, goods of the soul, and goods of the body. Of these the goods of the soul are good in the strictest and highest sense" (*Ethics*, I, 8).

The corresponding aim of mental education is to make the mind a worthy inhabitant of such a well-built home, using, not abusing, the body, and to itself a source of high ideas, contentment, and noble achievement in the social world.

And the corresponding unitary aim of all education is the physical and mental equipment of persons for social living—both wise leading and intelligent following.

The restoration of the ideal of unity in education is one great need, especially in the interest of a sound physical training for the many. It would also assist in solving some other pressing questions, such as the adjustment of the cultural and practical courses; but with these we are not concerned here.

VI. REMEDIES AND RESULTS

Only a word in conclusion as to remedies and possible results. Perhaps the remedies have been sufficiently intimated in the diagnosis, if correct, of the situation. We must recognize, spread, and practice the principle underlying modern physical education, viz., the unity in complexity of body and mind, and the consequent unity that should characterize all education. Some have done this for years already. The details of the prescription you will no doubt be able to supply better than I. To me it would be gratifying to see the current demand for athletic reform squarely and fully supplied by a change of spirit as well as of rules, the substitution of the ideal of sport for that of victory; the scorn of unfair means; admiration for the opponents' skill; and that love of fair play which is the best umpire. Our games are running in Teutonic fashion in the direction of team-play where moral standards are hardest to maintain, as the virtues of a committee or group or nation are slighter than those of its individuals taken separately. So I should welcome an emphasis on track work as being more individualistic and so as capable of illustrating higher standards more easily.

Also we should emphasize inter-class and inter-dormitory contests within a single institution; the lessening of inter-institutional contests, the requirement of higher scholarship for candidates for teams; the requirement of more physical training for the studious, allowing academic credit for the same; the strict maintenance of standards; the exclusion of first-year college men from inter-college contests; less glorification of athletic victories, more private appreciation and public recognition of the scholarship men; the reliance upon head work more than brute strength; more grace and less bodily injury; and the restoration to the first place of the idea of the educative function of all the agencies of physical training.

Our trust for improvement must finally be placed on individual efforts here and there, on the spreading of ideas thru print, on cautiously practicing reforms, and on the contagion of example. For American society so largely recruited from the school population and molded by the educated out of proportion to their number, the readjustment of values would in time mean less nervous

strain, less suffering from old injuries and over-exertion, more care of the physical on the part of busy men and women, a more vigorous scholarship, a better poised physique, an increased ability to take a vacation and enjoy a holiday, more of cultured leisure, less of man-destroying labor, less of idle amusement to stimulate a worn-out nervous system, and a greater appreciation of a proportioned education such as Plato had in mind when he wrote: "When a beautiful soul harmonizes with a beautiful form and the two are cast in the mold, that will be the fairest of sights to him who has an eye to see it."

TOPIC: CHILDREN DIFFER IN ENVIRONMENTS

I. SOUTHERN EDUCATIONAL PROBLEMS

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In a democracy the fundamental purposes of public education are everywhere the same. State systems of elementary schools have for their object the giving of a fund of intellectual and moral training which makes for intelligent and conscientious citizenship. Intelligence and conscientiousness insure a wise and just government. To make it possible for those who have the means and the inclination to continue their education and for latent talent that surpasses the intelligence of the average individual to develop still further, the American state also subsidizes public secondary schools and state universities.

By providing all of these educational means the state discharges its full duty toward its citizens. Besides, all of these educational facilities serve to enhance material prosperity, social efficiency, moral and political well-being. All of these agencies are provided for and vigorously encouraged in all of the southern states. Whatever methods are employed in the South differing from those to be found in other parts of the country are not due to differences of aims but rather to social and economic conditions.

By reason of the presence of a negro population, in many instances the majority element of the total population, the South carries the additional burden necessitated by the establishment and maintenance of a separate system of schools, separately financed, separately taught, and in some instances, separately supervised. According to the biennial reports of the state superintendents of Alabama, Arkansas, Florida, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, South Carolina, Tennessee, Texas, and Virginia, the length of term for negro schools varies from three and eight-tenths months in South Carolina to six and three-tenths months in Virginia, where the length of term is practically the same as the length of term for schools for whites.

Most of the state superintendents of the states mentioned advocate the giving of an industrial education along agricultural lines to the children of the negro race. State Superintendent J. Y. Joyner of North Carolina says on this point (*Biennial Report 1906–1908*):

My experience and observation in this work and my larger acquaintance with the people of the state and their feeling have deepened my conviction that the only hope in education beyond the point of mastery of the rudiments of learning for the negro race is to be found in agricultural and industrial training—largely in agricultural training. Unless we can give him such training in the schools as will help to make him a more industrious and efficient workman, and to save him from vice and idleness, the negro race is doomed.

Alfred Holt Stone, of Mississippi, in his *Studies in the American Race Problem*, predicts the economic future of the negro by his probable ability to compete with other forms of manual labor. A number of concrete problems are worked out in which comparisons are made between negro labor and other forms of labor, notably Italian labor, indicating the superiority of the latter on account of the Italian's greater thrift and more permanent tenancy. Mr. Stone asserts that negro labor is not so dependable. White labor is given the place in some instances. He says:

Already, here and there, scattered thruout the South, even in smaller towns, white domestic servants may be seen. There are white barbers and bootblacks, and white men in every other trade and calling. States and railroads and private organizations are discussing the question of foreign immigration with increasing earnestness. . . . .

As I have said, the negro possibly has it in his power to arrest this movement, at least for many years. He can do it, in a measure at least, by making of himself a reliable, dependable factor in the economic life of the South, but not by any other means within my view. I say he can do this. But will he? It would mean a revolution in the present social and industrial life and habits of the masses.

James H. Dillard, president of the Jeannes Fund, discussing the purposes of the Jeannes Fund in *The Independent* of December 2, 1909, makes the problem one to be solved by the rural public schools. In this connection he says:

Now, it must be remembered that it is upon the rural public schools that the great masses of the negroes in the South must depend for what training they are to receive; and the time has come for an effort to improve these schools. First, the public school authorities must awake to the fact that the school term must be lengthened in order to make the money spent of much avail. Secondly, these schools must have some sort of supervision. They need some one who would come, if only once or twice a month, with words of criticism and encouragement.

The income of the one-million-dollar Jeannes Fund is to be used to induce the regular school authorities to extend the work of rural education for negroes. As a report states:

From superintendents of education all over the South have come expressions of willingness to co-operate. . . . . During this first year the fund has paid the salary of seventy-three industrial teachers in schools connected, except in the case of four reform schools, with the public-school system, and in many places the assistance has been given at the instance of the county superintendent of education.

According to Census Bulletin 26 more than four-fifths of the population in the South is rural. The cityward migration has as yet not set in. In consequence, southern educational problems deal most largely with rural schools, as follows: To make larger provision for such schools; to distribute them

properly in a scattered country population; to build better schoolhouses and equip them adequately with modern school furniture, libraries, and the necessary mechanical means for teaching, such as maps, globes, charts, etc.; to place competent teachers and expert supervisors in charge of them; to consolidate them wherever possible; to get all the educable children into school and keep them there regularly without the operation of a compulsory education law; the necessary construction, in many instances, of passable roads; the formulation and carrying into effect of courses of study adapted to rural-school conditions; bringing within reach of the country boy and girl a high-school education—these are some of the more vital problems pressing for solution.

In addition, such rural population has a smaller per capita wealth, which makes inevitable a smaller per capita local appropriation for school purposes. The amount of wealth for each educable in the southern states as compared with amount of wealth for each educable in the United States as a whole is a little more than one-third. With this relatively small per capita (educables) wealth it would be doubly burdensome to carry the additional expenses entailed by the enforcement of a uniform compulsory education law. In proportion to the population the number of children is also much greater than in the North.

On account of the large plantations, or in those places where it is impossible to enroll enough pupils to comply with a state law requiring a minimum enrollment of ten, twelve, or fifteen pupils, county-school authorities sometimes pay part of the salary of a private teacher. In some instances teachers refuse to teach in isolated places (salary paid may be higher than in towns and cities) where congenial companionship is absent, where the conveniences to be found in more thickly settled sections are wanting.

How is the South meeting these problems?

All of these problems have received and are receiving the attention of the best educational thinkers in the South. Within the last ten years remarkable progress has been made in public education. All of the problems indicated have been partially solved.

The length of term for schools for whites is approximately 6.25 months on the average, including all of the states named.

Excepting local districts in Alabama, unincorporated local districts in Tennessee, and the county in Arkansas, all of the southern states support existing public schools and encourage the establishment of additional ones by district, county, and state school taxes. To assist in equalizing the burdens among the different sections of the state North Carolina sets a special appropriation of $100,000 to aid backward districts in bringing their school terms up to the constitutional requirement of four months. The last session of the legislature in South Carolina voted $20,000 to increase the average length of school term. Tennessee has a legal provision for apportioning 10 per cent. of the general education fund to the poorer counties.

With the exception of Mississippi every one of the southern states has the

advantages of normal-school facilities in institutions especially provided for the training of teachers. Teachers' institutes and summer schools are held in all of these states. Every southern state university has its department of education. Teachers in public schools, as a rule, come from the best families of the South. In most of these states the office of county superintendent is filled by trained men. The division superintendent in Virginia and the parish superintendent in Louisiana are given powers by law equal to those of city superintendents upon whom has been placed the responsibility of successful administration and supervision of their respective school systems.

The Louisiana school law, defining the functions and qualifications of county superintendents, is unique and considerably in advance of similar laws in other states.

On pages 41 and 42 of the Louisiana Public School Laws it is stated that "each board shall elect or appoint for a term of four years a parish (county) superintendent who shall be *ex-officio* secretary of the board, and who shall nominate all teachers to be employed in the public schools of the parish. He shall be a man of high moral character and a practical educator. Before any person may be eligible to appointment as parish superintendent he shall hold a certificate of eligibility issued by the state board of education, which certificate shall be revocable by the state board of education if at any time the parish superintendent should be found incompetent, inefficient, or unworthy."

State elementary-school inspectors are appointed in Virginia, and thru the co-operation of the trustees of the Peabody Education Fund inspectors of elementary schools are appointed in the other southern states. By means of the co-operation of the General Education Board, high-school inspectors have been appointed in all of the states mentioned, excepting Kentucky and Texas. These men, with one exception, work under the joint supervision of the respective state departments of education and state universities. In Louisiana the inspector does his work under the supervision of the state superintendent and the state board of education.

Regardless of opposition incurred from those who look upon the removal of the one-room rural school as a tyrannical interference with their personal liberties and rights, consolidation of rural schools is making rapid headway in the South. By means of such consolidation better schoolhouses are built; better equipment is provided; more competent teachers are secured; closer supervision is made possible; a larger enrollment, more regular attendance, and longer terms result; pupils stay in school for a longer period of years, leading to the establishment of high-school departments; expert teaching of agriculture, domestic science, music, and drawing may be successfully introduced; community life is built up; the teacher's life is made more congenial.

The problem of providing adequate educational facilities, of getting all of the educable children into school and keeping them there regularly without the operation of a separate compulsory education law finds its partial solution

in the available resources of states and communities, and in the method by which school funds are apportioned.

Wickliffe Rose, general agent of the Peabody Education Fund, in his 1909 report to the trustees of the Peabody Education Fund, draws the following conclusions based upon a comparative study of statistics:

1. To raise a given amount of revenue for each child of school age the burden of the South is three times as heavy as for the United States (p. 28);

2. It thus appears that in 1902 the southern states raised for all purposes, state, county, and municipal, practically as much revenue according to their financial ability as the rest of the country (p. 39);

3. For public schools the southern states seem to be doing less, according to their financial ability, than is being done by the rest of the country (p. 39);

4. These figures show that in the support given the schools the southern states are not living up to their own financial ability (p. 40);

5. The cost of maintaining schools would be less in the southern states than in states like Pennsylvania, New York, and Massachusetts. Taking all of the facts into consideration, it would seem to be a very conservative estimate to say that in order to provide for all the children of the southern states educational advantages equal to those provided for the children of the more favored sections of the country, the South will have to spend for schools at least four times as much revenue as it is now spending for this purpose (p. 70).

Professor Rose proposes a number of remedies for the raising of additional school funds. The first is a tentative statement, that "in most of the southern states perhaps the public-school funds should be increased by devoting a larger percentage of the total public revenue (state, county, and municipal combined) to the business of education" (p. 70).

His other recommendations are in virtual agreement with Professor Cubberley's conclusions in his *School Funds and Their Apportionment.* To equalize educational burdens and to stimulate local effort, school funds ought to be derived from state, county, and local municipalities. Instead of being distributed on the basis of scholastic population, as is done wholly or partly in thirty-eight states, including every southern state except Florida, school funds ought to be distributed on a basis of the number of teachers actually employed and aggregate days' attendance (or average daily attendance multiplied by length of time).

To relieve poorer communities of oppressive burdens in their attempts to meet the minimum educational demands of the state, a certain "reserve fund" should be set aside and distributed equitably among them.

Further, distribution on the basis of educables bears no direct ratio to the amount of taxes paid, because the taxes of the farmer are higher relatively than the taxes of the manufacturer. This places undue burdens upon agriculture and thus discourages the very industry upon which the economic development of the South so largely depends. If the basis of apportionment were changed, minimum educational demands could be made in every southern state, or could be somewhat increased without increasing the general school tax.

Partial or optional compulsory education laws are to be found in Kentucky,

North Carolina, Tennessee, and Virginia. In Kentucky such law is applicable only to cities of the first, second, third, and fourth classes or to all with a population of more than three thousand. In North Carolina, Tennessee, and Virginia, the operation of a compulsory education law is left to county boards of education.

References have already been made to the facts that the population of the South is mostly rural, that the per capita wealth to be found in rural communities is less than in manufacturing centers, that courses of study ought to be worked out better adapted to country life, that teachers ought to be prepared to teach in rural schools.

It is desirable that this large percentage of rural population be maintained. To do this, courses of study must be adjusted to meet the needs of the people; rural life must be raised to a point where it can compete successfully with the city in the opportunities and advantages it has to offer to the country boy and girl. The reason why our young people flock to the cities is not so much their natural desire to leave the farm as the fact that the city has more opportunities, comforts, conveniences, and means of culture to offer. Country life must be interpreted in the light of the child's experience instead of by illustrations drawn from books and from town or city life. Vocational instruction in agriculture is imperative and the public schools must furnish it. The potential resources in agriculture in the south, where thousands of acres of very fertile land lie undeveloped, are difficult to estimate.

The organization of corn clubs, the establishment of purely agricultural schools in Alabama, Arkansas, and Georgia, and the establishment of departments of agriculture in existing high schools, as is done in Louisiana, Tennessee, and Virginia, ought to do more to make farm-life attractive in those states than any other educational movement ever attempted in the South. On account of the expense connected with the establishment of a purely agricultural school, the tendency it would have to educate one class of people along one line only, lack of opportunity afforded to the pupils in such schools to come into contact with those preparing for other pursuits in life, the failure to make it possible for country boys and girls to take courses preparing them for other fields of usefulness, I believe that the plan to introduce departments of agriculture in existing high schools is by far preferable to the purely agricultural school, unless communities are densely enough settled for the existence of other high schools which pupils may attend who have no inclination to stay on the farm.

At present, the one-room rural schools of the South, as elsewhere, are given less attention from practically every educational standpoint—schoolhouses, equipment, teachers, supervision, courses of study, medical attention, etc.—than town and city schools. Especially is this true in regard to teachers in the one-room rural schools.

State Superintendent Harris of Louisiana has recently made a study of the number of normal-school teachers of Louisiana who are teaching in the

one-room rural schools. Among sixteen hundred and forty-seven (1,647) normal-school graduates prepared in the Louisiana State Normal, the New Orleans City Normal School, and normal schools outside of the state, 87 teach in one-room rural schools. This is a deplorable condition—a problem by no means limited to Louisiana nor to the South, but largely common to the entire country.

The high schools of the South have advanced rapidly during the last five years. This may be attributed to two causes: (1) successful classification of all schools doing high-school work; (2) state appropriations for their encouragement.

Upon the meeting of certain conditions and requirements, Alabama gives to each county high school $2,000; Arkansas, $160,000 for the establishment of four secondary agricultural high schools; Florida, $65,000 for all its high schools; Georgia, $77,500 to 11 congressional-district agricultural schools; Louisiana, $53,000 for two years out of the general school fund; North Carolina, $100,000 for two years; South Carolina, $60,000 annually; Tennessee, $1,500 to each county high school meeting certain requirements; Virginia, $135,000 a year.

With the exception of the county high schools in Alabama and the congressional-district agricultural high schools in Georgia, these schools may be located to meet local needs. At present all of these schools have a four-year high-school course based on an elementary course of seven years. Departments of manual training, domestic science, drawing, music, and agriculture have been introduced in a few high schools.

One of the most difficult problems to be solved in the upbuilding of the high schools of the South is due to the ability of high-school pupils to enter higher institutions of learning, private or public, and the pressure there is brought to bear on them to do so before completing the high-school course.

There is widespread interest in public education all over the South. The problems proposed are being solved by the separate states. There is a wholesome rivalry among them to outdo one another in this great work.

DISCUSSION

THOMAS P. BAILEY, superintendent of schools, Memphis, Tennessee.—There is only one southern problem, and it is that of environment. For southern children are the truest of Americans by birth and tradition, and therefore if they are being bred in the cult of caste, nurture due to conditions and not nature due to inheritance must be responsible for their departure from the splendid type of American democracy.

But do not suppose that even by implication I am condemning my own dear people. Public peace and the safety of the state demand that the less developed race be subordinate to the more developed, under conditions as they exist in the South today. The caste of the kin is the practice of the theory that blood is thicker than water; and the Sermon on the Mount cannot invalidate God's own law of the survival of the fittest. If these widely different races cannot blend their blood—and instinct and science say nay—the only real foundation for democracy, equality actual or potential, does not exist and cannot be created. The principles of liberty, equality, and fraternity are as abstractly true as Newton's Laws

of Motion, but the resistance of race-consciousness brings about as real a friction as does the resistance of the air in modifying the actions of bodies in motion.

The all-inclusive virtue, love itself, has a biological basis, and character-values are conditioned by body-facts. Thus it happens that the southerner's loyalty to his race comes of his love of his kind, the kind he knows and values.

But *should* such conditions exist? Must southern children of the dominant race grow up to scorn and despise, or else condescendingly to tolerate, their less fortunate fellow-creatures? Or shall we legitimate lust and short-circuit the destiny of a chosen people? Southerners understand the apparent cruelty imputed to the God of Israel who is represented as commanding the extermination of non-assimilable peoples. But the more refined killing of today in the South is not the occasional taking of a negro's life but the impassive and relentless murder of a people's hopes. But better this than worse that might be. Better twenty years of Europe than a cycle of Cathay. Better preternatural suspicion than breeding dusky broods. Sometimes we must be cruel would we be kind.

Only in the kingdom of heaven is there neither marriage nor giving in marriage. Now the kingdom has not yet come in the South. Therefore, let him that would establish any kind of human equality on any basis other than that of a biologically based family life, give us the recipe for life in a vacuum.

Again I ask, *Should* these things be? Must the southern child be compelled to choose between the ideal and the real in a world where ideals must be realized in accordance with the laws of nature? Will sickly saintliness bring us salvation? Or must we seek safety in racial selfishness? God forbid the answer, "Yes," to either of these last two questions! Who shall deliver us from the body of this death!

I dare not hope to put this subject before you sharply in a hasty minute or two. But I must make an appeal in the name of the righteous God and of bewildered humanity. I ask that you leaders of education think on these things in this wise: *Let us have this negro question studied.* We are studying tariffs and the price of beef; we become partisans about a pole intangible and invisible; our scientific expeditions scour land and sea for specimens of fauna and flora; we discriminate nicely the uncertain tints of Mexican Indians; we explore the heavens above, the earth beneath, and the waters under the earth—all these we do, and much more, without the waving of bloody shirts or the planting of party platforms.

Let us take the negro question out of politics, out of society, out of popular religious discussion, out of prize-fighting—out of all wherein heat doth obtain rather than light.

Let us put the negro question into science, and science into the negro question. We have tried all else, and in vain. Parties and churches and schools, and philanthropies of all kinds, have brought us not one whit nearer a solution. The favorite prescription for a solution is education, especially industrial education. And yet there are towns where negro artisans are not allowed to work, and labor unions in plenty that negroes may not enter. Education for *what?* Are the whites going to neglect the training of *their* children's hands? When the grandsons of the former slave-owners are dead, will anyone prefer negro labor, skilled or unskilled, to white?

Can education abolish race-consciousness and repattern the convolutions of the brain? Aye, education may solve the race-problem and all problems, but *when* and *where* and *how?*

Men and brethren, let us *study* the race problem. Let the study be national and international, for ours is not the only problem of race. Let the study be scientific and not sentimental; co-operative and not individualistic; continuous and not scrappy; professional and not *dilettante;* humanitarian and not partisan.

Let us isolate the surd and square the whole equation—find a square deal. It is science, and science alone, star-eyed science, truth-loving science, spiritually intellectual science—it is the twentieth century's greatest power, the scientific research of today, that can prepare us for the doing of this Nation's greatest duty, the solution of this problem, so as to free two unallied peoples and make the states of this union *United States* indeed and in truth!

THE EFFECT OF INDUSTRIAL ENVIRONMENT

CLIFFORD B. CONNELLEY, DEAN OF THE SCHOOL FOR APPRENTICES AND JOURNEYMEN OF THE CARNEGIE TECHNICAL SCHOOLS, PITTSBURG, PA.

Environment has been defined to be "surrounding conditions, influences, or forces, by which living forms are influenced and modified in their growth and development," and in the light of this definition it is not difficult to appreciate the importance of a subject such as is this in relation to the educational policy of our country toward its children. We need not be students of psychology to be able to understand what environment means in the daily lives of men and women, and to what great extent it bears upon the trend of adult life in all walks. Few men and women are so constructed that they cannot be influenced, even though slightly, by the surroundings in which they live, and the most mature character and mind bear the stamp of the world about them. Social history and social progress offer evidence of the influence of environment in every stage and step, and educational advancement is affected likewise by surrounding influences.

If then, as I have suggested, environment means so much in the lives of men and women, how much more does it mean to children! Here we find the mind and character in immaturity and non-development, the raw mass waiting to be molded by surroundings, experience, and education. Early impressions mean so much to the child, and every experience leaves its impression on the young mind. The surroundings in which the child moves are acknowledged by scientists to be an all-important consideration in the growth of the child's mind and character, whether it be the surroundings of the home or of the school. And since the educators of the country are entirely responsible for the educational environments of the children and their consequent influence on the growth of the child, it behooves us to take special note of this feature of our training and to regulate it as much as possible in accordance with the necessities and advantages attendant upon the natural environment of the children.

There can be no doubt that the life of the community influences the character of the school in that community, and is a moving consideration in the educational policy necessary there. Various sections of our country have their own peculiar problems to care for and meet, and the educators of each section cannot meet with satisfactory success unless they consider these surroundings as affecting their individual communities. North and South, East and West—all have their peculiar features of environment and its great influences, and it is therefore almost impossible to lay down any general detailed rule for guidance in educational policy which will fit every section of the country without modification.

Our educational systems must be modified and regulated according to the demands of the community in which our schools are located; otherwise, the school must be out of harmony with the needs and requirements of the city or country in which it happens to be.

Just as sections of the country are particularly affected by surrounding conditions, so in every section the country districts and the city districts are also peculiarly affected by environment. The rural communities require educational facilities in harmony with rural conditions and needs, and city districts must take into vital consideration the environment of the cities. This is true whether we consider education in general, or whether we discuss only that particular branch known as "Industrial Education." In fact, environment means perhaps more to the latter than to the former, for environment first touches industrial needs and necessities, as the means of preparing the child for its future capacity to earn a competence midst such surroundings and under such conditions as exist in the community in which it lives.

Industrial environment, especially in the large manufacturing cities, such as Pittsburg, has a most important bearing on the educational policy of the city. In fact, the practical questions suggested by life in such cities sometimes make it difficult for educators there to save the school from an overwhelming demand for materialistic education. Great industries mean great competition and great needs. Manufacturers are constantly in search of skilled labor and they offer tempting compensation for it. Parents and their children are not slow to perceive the opportunities of large remuneration for manual services, and spurred on by the necessities of earning large wages to meet the demands of these days of high-priced living, the view of these parents and their children who are old enough to understand what money means inclines sharply toward a demand for practical education in the shortest time possible to attain it. It is not difficult, then, to understand the problem which confronts the educator in the large manufacturing cities, especially when we consider that nowadays people have come to know full well the advantages of skilled ability in manual trades over that of ordinary clerkships in mercantile pursuits as a medium of satisfactory incomes.

The great problem, then, in the educational policy of every city must be to adapt the course of education to the necessities of the city to the extent in which each branch of education is needed, and no further. Large manufacturing cities require large industrial educational facilities, and the need is constantly growing. The various cities thruout the country are endeavoring today to meet this problem in the most effective and satisfactory manner, and as to their success or failure time alone will be the judge.

The effect of industrial environment on educational policy may be better realized when we consider how far it has been recognized and acted upon by educators thruout the world. In foreign countries, as well as in our own, the needs created and stimulated by industrial environments have caused progressive educators to endeavor to meet the requirements of their communities and countries in a practical manner. Let us briefly review the policy adopted in various foreign countries, and then in different sections of our own, toward the industrial needs of the country.

In Germany there is at present established a system of industrial education

wholly in harmony with the industrial demands of the nation. It has well been said that "the industrial schools of Germany are justly celebrated for their thoro, systematic, and comprehensive instruction." They cover the whole educational period; there are the lower industrial schools, which connect directly with the common schools, and thus become continuation schools and give training to workmen; the higher industrial schools which correspond to our technical colleges and produce the leading technologists; and the middle industrial schools for pupils who have gone thru the lower industrial schools, but who desire to shorten the period of higher education, altho they wish to prepare themselves to become foremen or assistant superintendents. The cities of Munich and Berlin are especially noted for their progress in the lines of education in industrial branches, and the success of the schools in these cities is largely due to the insistent demand for them arising from the industrial environment of the communities. The proverbial "Made in Germany" expression is an evidence of the world's recognition of that nation's wonderful industry, and if present conditions in the educational system of the country will serve as a criterion for the future, Germany will long continue to be referred to in that way.

In France, which is not so great an industrial country as is Germany, the need for industrial training to meet her own particular conditions and those of the surrounding nations has been well met. This may be gathered from the fact that while in 1880 there were in that country only forty-eight industrial schools receiving state aid, yet twenty years later this number had been increased to three hundred. As a rule, the schools are carried on under government supervision, and furnish industrial education of the broadest kind. It is a matter of interest here that in France an effort is made to educate the pupils artistically as well as in skillful manipulation, which is quite in harmony with the artistic temperament of the nation, and the materialistic output.

In the great industrial nation of England, existing social conditions peculiar to the country somewhat retard the progress of the industrial educational system. Yet the large cities, particularly London, Liverpool, and Manchester, are endeavoring to meet the needs of the people to a great extent. Industrial education in England is fostered by national subsidies, and consequently the industrial schools there are under national control.

In our own country, both states and cities have recognized the needs of the people in industrial lines. Three state schools have already been established in New Jersey, and the success with which they have been attended proves the wisdom of such institutions. In Massachusetts, under the direction of the Massachusetts Commission on Industrial Education, the policy of the industrial-school system of the state is gradually being shaped in such a manner as to offer the most effective results. But New Jersey and Massachusetts are not alone in their recognition of the industrial needs of the people; New York, Wisconsin, and many other states have proceeded along similar lines, tho perhaps by different methods. But the tendency

everywhere is to regulate educational policy in accordance with local environment.

From the brief statement of facts here given, it may be gathered that the effect of industrial environment of city and country life at present is to create a demand for sufficient industrial training, along with other branches of education, to meet the needs of the community. If our schools are to be well attended and if our pupils are to be kept interested in their work, it is incumbent upon us to offer students proportionate courses of various forms of education in keeping with the needs created by the environments of the communities in which our schools are located. Educational policy must be so molded as to fit the environments of the localities in which the education is offered, and that this need is being appreciated more each day is fully attested by the ever-increasing tendency of modern educators to offer students a course of instruction wholly harmonious with the student's needs.

EDUCATION IN THE COUNTRY FOR THE COUNTRY

JOHN W. ZELLER, STATE COMMISSIONER OF COMMON SCHOOLS FOR OHIO, COLUMBUS, OHIO

In a recent utterance, Hon. Elmer E. Brown, United States Commissioner of Education, said:

> Two of the most important problems of American education at the present time center in our rural schools. These are, the problem of the adjustment of the school to the industrial life of the community, and the problem of more adequate country-school supervision.

This statement gives expression to a nation-wide feeling. We are coming to realize more and more that our agricultural interests are the foundation of all other industrial interests—that as these prosper, all others will prosper—that as these decline, all others will decline.

The investigations of Secretary Wilson of the Interior Department along the line of our agricultural industries, and the recent formal utterances of two great captains of industry, have awakened a new interest in our rural problem. We are coming to have a rural, as well as a city, problem.

Quite recently, in a formal address in Boston in the presence of a notable gathering, President William C. Brown of the New York Central Railroad said:

> We must increase production per acre by more intelligent methods or we must face the relentless certain day when we shall not produce food enough to supply our necessities.

Six months before this statement, another great captain, President J. J. Hill, of the great Northwest, gave expression to the same feeling when he said that the time would come when we would import agricultural products.

In the light of the fact that during the last decade we have sold a billion dollars' worth annually of our farm products abroad, these may seem strange and unwarranted statements. But these prophets see strong tendencies and

conditions which, if not checked and improved, will ultimately fulfill these predictions. That there are agencies and conditions strongly tending toward the fulfillment of these prophecies, no keen student of our economic and industrial conditions can truthfully deny.

President Brown and Commissioner Brown, tho widely separated in the nature of their positions, both said the same thing. The former said: "We must increase production per acre by more intelligent methods." The latter said: "Two of the most important problems of American education are the adjustment of the school to the industrial life of the community and more adequate country-school supervision." Railroad Brown said that farming must be more scientific, and Commissioner Brown told us how to make it more scientific. The former stated a stupendous and alarming fact; the latter suggested the remedy by which our fears may be allayed.

The adjustment of the school to the industrial life of the community means more than scientific farming. It means a larger number of farmers employing more intelligent methods.

The program committee evidently scented this same thought when they framed this subject—"Education in the Country for the Country."

THE ADJUSTMENT OF THE SCHOOL

Education for the country will require an adjustment of the schools in the country to the agricultural and domestic life of the country. This means, first, a change in the course of study. The country-school curriculum must be modernized—so modified as to meet the intellectual, industrial, and social needs of rural-community life. Experience has already demonstrated that such a curriculum is a most potent factor in promoting not only material wealth, but intellectual and moral as well.

But, second, the adjustment of the school to the industrial life of the community means more than a change in course of study. It means teachers trained for and adjusted to a course of study adjusted to the agricultural life of the country. This training of teachers requires a state system of training schools whose scope is broad enough to educate and train, not only in mathematics, but in agriculture, horticulture, forestry, and domestic science.

Third, the adjustment of the school means more than change in curriculum, trained leadership, and training schools. It means township and village high schools whose buildings are constructed and equipped with a view of adapting them to the modernized curriculum. This means more school revenues in many localities; in other localities it means reorganization thru consolidation and centralization of schools. The solution of the problems of securing more revenue where needed and reorganization thru consolidation and centralization where it is practical to do so, requires an enlightened public sentiment. An expert, well-equipped, well-paid educational county official can do much to develop an intelligent public sentiment so essential to all school improvement.

This brings me to the second statement of Hon. Elmer E. Brown, "The problem of more adequate country-school supervision."

I prefer, however, to discuss this problem later in the paper, and retrace my steps to consider the rural high school. In the "adjustment of the school to the industrial life of the community," the high school is the essential and fundamental factor. I mean the high school in the country, not in the county-seat or city.

THE RURAL HIGH SCHOOL

The rural high school is just as essential to a complete scheme of education for the country as the city high school is to a complete scheme of education for the city. There are many reasons why vigorous and aggressive measures should be enacted to stimulate and build up the rural high school.

1. Because country life and country environments afford a better opportunity for study and a better opportunity to secure the raw material for a good education.

2. The home of the youth of tender years is the best place in the world for his boarding and lodging place.

3. The rural high school will save several years now wasted in useless repetition of studies.

4. The rural high school affords the opportunity of securing an industrial education suited to the needs of a rural people.

5. The rural high school affords the opportunity for the development of the rural spirit, a spirit that would magnify and exalt respect and love for country life, "A spirit that would awaken a deeper interest in the children in the problems of rural betterment, and hasten the time when the rural community will be regarded as the ideal place in which to live."

6. The rural high school could become the center of great agricultural possibilities. Let this school be equipped with a course of study and laboratory the equal of the city school, and adapted to the rural community life, with an agricultural expert as one of the teachers, and who can estimate the rural possibilities that would result from such high-school centers in each township? A high school so equipped would find numerous ways not only to develop the rural spirit in the pupils, but to aid the farmers. The problem of fertilization, the problem of the different types of soil and crops adapted to each type, the problem of crop rotation, of stock-judging, of protecting crops and fruits against the ravages of insects which destroy millions every season, the forest problem—these are a few of the many problems that an agricultural expert in the rural high school could materially aid in solving.

7. In addition to this work for the youth, this high-school agricultural teacher could conduct short courses in agriculture for the benefit of the farmers of the community. The agricultural department conducted by the United States and the various states does not reach the average farmer. The agricultural reports and bulletins do not reach the most needy farmers.

There has been a failure to connect the agricultural colleges and departments with the farmer. The rural high school could become the depository and distributing center for everything of value published by the agricultural colleges and experiment stations.

The high-school agricultural teacher could awaken an interest in the value of these reports and bulletins, and these, with an agricultural library, would become effective in making a helpful connection between the farmers of each township and our agricultural schools. In these, and many other ways, the rural high school could awaken an interest and render inestimable service to the rural community.

8. Undue emphasis should not be placed in the rural high school on industrial education. "Man cannot live by bread alone." The course of study should be well ballasted with academic studies. Education for avocation is at least equally as important as education for vocation. This rural high school should become a center for many social and literary advantages. The ideal rural high school would have a library of wisely selected books, and become a center of distribution of the best books, magazines and periodicals, and scientific works demanded in the community. It would have a lecture course and other social and literary entertainments.

9. Not many of our rural youth at present have the opportunity of securing a critical knowledge and appreciation of good literature. Without this knowledge, they cannot appreciate good books—books which during the hours when they are not employed in the struggle for bread and butter will make life worth living. The culture studies, literature, history, music, and art, should have a large place in a course of study for the country. The rural as well as the city youth must be fitted "to enjoy the things of the mind and higher life, to think the best thoughts of the best men as these are enshrined in art and literature." I would have the rural high school made a potent culture-center and inspire the rural youth with the idea that the best place to live is in the country, and that scientific farming is as honorable and may become as great a profession as law or medicine.

The ideal rural high school would afford all these advantages and opportunities, and the general social, intellectual, and moral uplift "would be too great to be estimated."

TIME AND EFFORT

But you say that this adjustment and transformation will take time and effort. True, but the time is ripe to move toward this ideal by leaps and bounds. From many sources comes the cry of the decadence of our rural schools. Many rural communities are eager for the improvement of their schools. Our most intelligent farmers are coming to realize that a technical and scientific knowledge is essential to the most successful farming, and that the rural youth must be taught these subjects to the end that we may perpetuate our agricultural prosperity. Yes, it will take time, and effort, and organization and legislation to solve this rural-school problem, but in solving

it we shall solve one of the most fundamental problems of this century—the problem of checking the movement of population from the country to the city. One way to check this movement is to build up a system of rural schools which will give *equality of educational opportunity* to our rural youth.

Education in the country for the country needs heroic treatment. I do not believe in making haste slowly in attempting to solve this problem. I believe in evolution—not a purely natural evolution, but evolution stimulated by vigorous organization, expert leadership, and wise legislation.

It is a trite saying that you cannot legislate people into righteousness; but one of the chief functions of legislation is to create conditions favorable to righteousness. Law today, no less than in ancient Hebrew economy, is a schoolmaster to lead men to higher and better ideals.

MORE ADEQUATE SUPERVISION

This discussion brings me to Commissioner Brown's second rural-school problem—the problem of more adequate country-school supervision.

All of the states have made some provision for rural-school supervision; very few have an adequate system of county-school supervision. All of the states west of the New England states, except Ohio and Arkansas, have some form of county supervision.

In Ohio, after nearly a half-century of optional township supervision, and twelve years of township centralization, not more than 150 of the 1,369 townships are under supervision that supervises. More than a quarter of a million of rural-school youth in our state have no supervision worth the name.

In the states which have the best system of county supervision, marked improvements have been made in the rural schools, but even here it is conceded that the county unit is too large for close, adequate supervision. The township unit, it is quite generally conceded, is too small for a state-wide system of adequate supervision. There is a growing tendency in Ohio toward a system of rural-school supervision involving both of these principles—the one expressed in a mandatory county superintendency, making the county the unit for school administration; and the other principle expressed in mandatory group-township districts with a supervisor whose chief function is to be supervision. This scheme embodies both principles—the federating, systematizing, and unifying principle, expressed in the county superintendent; and the close, adequate supervision principle, expressed in a group-township district supervisor. This is the ideal toward which Ohio is striving and tending.

Among the numerous duties and powers vested in the county superintendent, the following should be some of the more specific powers:

1. To study educational needs and conditions with a view of reorganizing the rural-school system to meet the demands of this new industrial age.

2. To create wholesome, enlightened public sentiment so essential to all school improvement.

3. To encourage centralization and consolidation where practicable, and group-township districts for effective supervision where the former are not practicable.

4. To encourage, stimulate, and lead in the establishment of rural high schools.

5. To become, as he has in some states, the strong right arm of the state department of education.

6. To federate, unify, and utilize all the educational forces of the country to make our rural-school education more vital and effective.

The county superintendent should be free to give much time to, and to place great emphasis on, the rural-high-school problem. Under wise and expert leadership, he could consolidate the township with the poor, struggling village high school and thus secure a sufficient tax duplicate to support one first-class high school with a strong department for the teaching of agriculture. The well-equipped rural high school, as I see it in our state, is fundamentally essential to an effective system of education in the country for the country.

I do not believe that it is feasible to introduce agriculture or any other phase of industrial education into the entire body of rural schools within a state. I believe in the conclusion reached by the Committee on Industrial Education made to the National Education Association five years ago, which declared that "under existing conditions and under conditions likely to exist for a long time to come, comparatively few teachers in the country schools will be prepared for this work." The committee further says: "In each country where the experiment has failed, the authorities have reported that the chief reason was the failure to secure teachers properly prepared to teach the subject."

"It is evident that before this phase of industrial education can be made a success in the one-room district school, there must be a body of teachers with special training for this work, that pupils must remain longer in school, that there must be greater facilities for the training of teachers, and that salaries must be materially increased," to which I wish to add that more men teachers must engage in school work.

I return, therefore, with even greater assurance to the conclusion reached before, that *education in the country for the country* must, under present conditions, be secured very largely thru the rural high school, and that we need more adequate school supervision to foster and build up first-grade rural schools all over the country.

WHAT HAS BEEN ACCOMPLISHED FOR EDUCATION IN THE COUNTRY FOR THE COUNTRY?

The Hon. A. C. True, Director of the Office of Experiment Stations, Washington, D.C., in a recent address in Portland, Ore., tells us that much has been accomplished.

When Secretary Wilson came to the Department of Agriculture twelve years ago, there were but ten agricultural high schools in the country. Now there are sixty agricultural high schools. Then there were few, if any,

public high schools teaching agriculture; now there are three hundred and forty-six. Then there were but few schools training teachers to give instruction in agriculture; now there are one hundred and nineteen state or county normal schools, and fifteen agricultural colleges training teachers to give instruction in this subject. Our agricultural colleges can do much, have done much in some of the states, but they cannot do all the work. The separate agricultural high schools supported in part by the states have been established in some of the states. Alabama, Georgia, California, Minnesota, New York, and Oklahoma have congressional-district agricultural high schools. Wisconsin, Maryland, Michigan, and Mississippi are trying the experiment of county agricultural schools with a large measure of success. Add to all these the work in private schools and correspondence schools along the line of this phase of industrial education and it will appear that much has been accomplished in the last decade.

This movement has gained tremendous headway until, according to a recent bulletin statement from the Department of Agriculture at Washington, there are now more than five hundred educational institutions in the United States engaged in training teachers how to teach agriculture in the public schools.

The present scope of instruction in agriculture would not be complete without adding the efforts made in some of the states in the township high schools. This movement has begun in Ohio, and I believe will spread rapidly over our state. More than a score of township high schools are doing effective work in agriculture. In my own native township, Union, in Hancock County, Ohio, an $18,000 building, the greater part of which will be devoted to the high school, with a well-equipped laboratory for the teaching of agriculture, not only to the pupils, but to the farmers as well, is now being planned and erected.

A normal-school bill, making provision for two additional state normal schools for Northern Ohio, is now pending in the General Assembly. It is written in the bill that, in planning said buildings, provision shall be made for well-equipped departments for instruction and training in agriculture. Ohio believes in the conclusion reached by the Committee on Industrial Education already referred to, that trained teachers are necessary to make a success of any phase of industrial education. These agricultural departments are to train teachers for our rural high schools.

WHAT MORE CAN BE DONE?

The State Fair Board, the agricultural colleges, the state grange, the state training schools in agriculture, the agricultural experiment stations, and all other organized agencies along this phase of industrial education should federate their forces and more closely ally their aims and efforts. In too many states now, each seems to be independent of the other. They should be made to articulate at some points more closely.

It also occurs to me that there might be organized with profit an interstate commission on agricultural education—an interstate commission composed of states whose climatic and industrial conditions are quite similar.

The public-school men must become more active and helpful in the solution of this, one of the most vital problems of the age—education in the country *for the country*, and thus aid without litigation in removing one of the chief causes of the high cost of living, and aid in creating conditions more conducive to a higher and nobler type of American citizenship.

DISCUSSION

JOHN F. HAINES, county superintendent of schools, Noblesville, Ind.—The function of the school is to educate the child: the function of education is to furnish the child (1) the ability to make a living, (2) the ability to make a life.

I put the ability to make a living first, because the man who cannot make a living does not and cannot command the respect of his fellows.

What then must be the education of the country boy to enable him to stand in the community as a man of property and at the same time be a useful member of society?

We are pretty well agreed that a change in our present course of study is needed, but no change has yet been suggested that is acceptable. We are so wedded to traditions that we are not willing to give up our "partial payments," our map questions, and our long line of dates in history. Both the school men and the farmers are to blame for the present state of affairs. The school man sits in his study and evolves a "course of study for the rural school." He sees in his "mind's eye" the country child, by pursuing the subjects that he suggests and in the order that he suggests, become an "agriculturist," not a farmer. Such a course usually does more harm than good. The author of it does not know the conditions and cannot know them by merely reading about them or hearing about them.

The farmer is opposed to a change in the curriculum. He wants his boy to study books; the boy can learn to work at home, and the girl can learn to cook and sew under the instruction of her mother. What then must be done to improve the conditions in the rural schools?

1. Men who deal with this problem must be men who come into direct contact with conditions as they exist.

2. The public opinion of the rural communities must be changed.

It is evident that in the grades great slices of arithmetic and geography and history must be cut off and cast out, and in their places must be put manual training, some of the simpler phases of agriculture, and music, drawing, and reading, reading, reading.

In the high school much of the Latin and German and the higher mathematics and the so-called science work could well be omitted. The Latin seems to develop in the boys a propensity for swearing, and mathematics a weakness for tears in the girls. In chemistry, and sometimes even in botany, the pupil, after a full term's work, says, "What is it all about?"

But what would the colleges do for students prepared to enter? There would be one satisfaction, that those who entered would know how to work and the education acquired would "stick" better than much of the college education under the present plan, which, like paper put on a whitewashed wall, peels off soon after examination day.

Education in the country to accomplish its purpose must do at least two things. It must put the child in possession of a knowledge of its environments and give him skill in the use of this knowledge. It must also give him culture and refinement. This, to my mind, must be accomplished not by establishing trade schools and agricultural high schools in different sections, but by eliminating from the present course of study some of the things

that I have already indicated and putting in their places agriculture, manual training, and domestic science.

It is claimed that we could not find teachers prepared to teach these subjects. True, but neither can we find teachers prepared to teach arithmetic, grammar, and history. The great trouble in my own county is, not that we cannot find teachers who are prepared or who are willing to prepare, but that if the course of study prescribed by the state board of education is carried out there is but little time left for anything else. The pupil desires to complete this course in the common school so that he may enter the high school and the high school adheres to its course in order that it may remain on the commissioned list. If we could have a course of study requiring a minimum amount of work instead of minimum grades in certain subjects it would help us wonderfully.

In some of the high schools in my county we offer courses in agricultural and domestic science, but the cry year after year is that we have not the time to do this and carry out the prescribed course.

The farmers themselves have opposed such instruction in the schools, but when it is once introduced they are soon converted. The children are ready and anxious "to do things." Some years ago I organized a Boys' Corn Club in Hamilton County, the first ever organized by a school man. I thought it would be better for the boys to raise corn than to raise so much of the proverbial "Cain." The result is that a large number of these boys have become expert corn-growers and have taught their fathers how to select and test the seed. In some of our rural schools we have introduced manual training, and here again the parents are converted. Almost without exception the boys who raise the best corn and who do the best work at the bench are the leaders in their classes.

What then should be done for education in the country? In the Middle West this should be done: whenever it is possible the schools should be consolidated so that in each school there would be at least two teachers, the principal, a man who should receive not less than fifty dollars for each month in the year. Just as soon as he has proven himself the man for the place he should be installed so that he could not be removed without just cause. He should live in the community and have his interests there. He should be placed in charge of from ten to twenty acres of land and this should be the experiment plot for the neighborhood. Place in this school also a young woman who can teach the girls. Then give them time and material and see what will be accomplished. Give the high schools a chance to train teachers for these rural schools and they will do it.

But I would not neglect the culture side. I would have the country children taught music and drawing and literature in abundance. I would have the boy taught to build a better house and beautify the farm. I would have the girl taught to beautify the home and make it attractive.

When education in the country is made for the country, then the highest type of manhood will be developed there in the future just as it has been in the past.

TOPIC: CHILDREN DIFFER IN VOCATIONAL AIMS

INDUSTRIAL EDUCATION IN THE ELEMENTARY SCHOOL

BEN W. JOHNSON, DIRECTOR OF MANUAL TRAINING, PUBLIC SCHOOLS, SEATTLE, WASH.

For the sake of clearness, I define "vocational" to be that which pertains to a definite occupation, and "industrial" that which pertains to all occupations—ideas of materials and processes, their production, manufacture, and distribution.

I may also safely assume that children do differ in mental alertness, in

mental attitudes, tastes, and tendencies, in environment, in physical condition, and likewise in vocational aim. The previous speakers have so interpreted these topics in their discussion of them, consequently the kind and character of the education the child is to receive must be so modified that every child will have his opportunity to grow and develop according to these fundamental differences.

The question arises: When do these differences become dominant in the life of the child so that we can, with reasonable accuracy, determine what they are, their character and strength, what of stimulus to give them, what of redirection for the good of the child and his future needs?

I quote the expression of more than one educational writer in stating that "it is a growing conviction that the elementary period as now organized must be modified to meet this new situation." The elementary period as such should end at about twelve years or the sixth grade, and the seventh and eighth grades with the first, and possibly the second, year of the high school should be organized into a separate or intermediate department.

This plan would have a number of advantages over the so-called six-year high school. To add two years at the beginning of the high school without modifying the point of view of most of the secondary work would not remedy to any extent the present exodus from the school after the first year. Again, this period, the intermediate, is a unified period where we consider the best interests of the child, and the school should be organized solely to that end. The upper grammar grades are now using methods and organization copies from the lower grades and are attempting to treat the subjects from the standpoint of the high school. In this intermediate school the subjects, fewer in number for each pupil, would be studied from the standpoint of social need and not as separate subjects. The transition from the elementary to the high school proper would be easier, and the changes would come at the time of needed adjustment. The courses offered would permit the child who expected to continue in school an opportunity to elect a language, and to those children who could not continue, the opportunity to select an industrial course, or pre-apprenticeship course, ending at about the sixteenth or seventeenth year. This course would also permit the pupil to pass easily to the high school if he, later, desired to do so.

There is nothing to be gained, apparently, in having separate schools at the intermediate period for the two lines of work. The "industrial cultural" and the "academic cultural" as Mr. Person[1] calls them, could be accommodated in the same institution with all the advantages of the same social and administrative organization such as now obtains in most of our high schools with their different courses. The place for the separate school is after the sixteenth year when a definite vocation or trade is to be taught.

Berkeley, Cal., voted to try a similar plan of organization of its public schools, beginning the past January. Superintendent F. F. Bunker has organized the seventh and eighth grades together with the ninth grade of the

[1] *Industrial Education* (1907).

high school and placed all these pupils in three convenient school centers and placed in charge of them strong teachers of broad culture and wide experience in teaching pupils of this age and hopes thereby to make the transition from the elementary school to the departmental work of the high school much easier. He also believes "it will aid in establishing a community feeling or group responsibility, under favorable conditions, with pupils totally lacking in this respect in the elementary schoool."

This intermediate school would correspond to a similar organization in European schools, with the further great advantage of their being democratic —"open at the top" to further education or training and open at the bottom to any boys or girls old enough to enter.

As to the evils of early specialization that this scheme seems to favor, the reply is, that specialization is not the purpose of such a school, nor can it be when we consider the nature of the child and the character of the instruction he should receive.

Is not specialization largely dependent upon the way a subject or course of study is presented? If for the subject alone, it is specialization; if for the subject in its relations to individual and social need, it is not specialization. The child is not narrowed in his outlook on life. The trouble with the cry of "early specialization" is that the assertion is too often made from the narrow standpoint of the so-called academic cultural course which considers all other lines of study narrow because they use the life-material of today as cultural elements.

The segregation of the particularly bright pupils of the seventh and eighth grades that they may do part of the high-school work and thereby gain a year, is a recognition of this need and is very good as far as it goes. It is not broad enough unless it places equal emphasis upon the industrial and academic courses, and classifies all pupils for mental alertness according to their native tastes and interests. Culture and intellectuality are not the exclusive products of any one course. If in such segregated groups only such academic studies are given as will lead directly to the high school and college, too much emphasis is given to a line of study too long considered the peculiar possession of the socially and intellectually select. Democracy should grant an equal opportunity, but not necessarily the same opportunity, not to a few specially selected, but to all pupils according to capacity, taste, and interest.

Mr. Ayres states the following:

> From available data it appears safe to say that for every pupil making rapid progress there are from eight to ten making slow progress and for every term gained by the rapid pupils, from ten to twelve are lost by the slow ones. The courses of study of our city school systems are adjusted to the powers of the brightest pupils. They are beyond the powers of the average pupil, and far beyond those of the slower ones.[1]

I venture the assertion that a lop-sided school course is largely responsible for this state of affairs. Why do we not "get busy" and correct this state

[1] *The Laggard in Our Schools.*

of affairs? There is $27,000,000 a year in it to be saved, according to Mr. Ayres' estimate of our losses thru this cause, to say nothing of the children we can save.

I will not take space to give details of an industrial course in such an intermediate school, but refer you to others who have covered this point quite thoroly. Dr. Haney gives such an outline in the *Educational Review*, November, 1907; Mr. Selvidge, in the *Manual Training Magazine* of June, 1909, and Mr. Dodd, in the same magazine for December, 1909; Mr. Dean, in a circular, *The Albany Vocational School*, issued by the Division of Trade Schools, Department of Education, New York, of which he is chief. The last two are working schedules now in operation. The Report of the Special Committee on Industrial Education of the American Federation of Labor also gives similar suggestions for courses. All of these writers, with the exception of Mr. Selvidge, call their courses vocational, meaning that they are industrial courses that will help the pupil choose some definite vocation which he will later pursue as an apprentice or in a trade school. They recommend a longer school day and from one-third to one-half of the time to be spent in handwork or household arts and drawing.

It is interesting to note, in passing, that the kind of handwork proposed is the same now given in any good manual-training course for the seventh, eighth, and ninth grades, but giving more time to it. Another point of importance is that these industrial, cultural courses in these intermediate schools are presented from the standpoint of social need, as is likewise each subject of the course—science, mathematics, history, geography, and language.

Now the elementary period proper would include all children from the first to the end of the sixth grade, the period when practically all the children are in the school.

The psychology of the child of this period should be the key to the character methods used for his education.

The vocational aim, if this play-imitation and play-utility time of life may be so called, is only significant as indicating a means of connecting in his mind the relations that exist in the industrial world.

From this standpoint, all the children of this period may be classed together, and the course be uniform. The things they need to know are the ones of fundamental service to society. These things the masses must have to get on at all. These are first the tools of communication, reading and writing, how to use one's own language, to perform the simple operations of arithmetic and of accounting, and also get somewhat of sympathetic knowledge of his city, county, and national government, politically and industrially, and as to bodily welfare, he should know the simple laws of health and sanitation, the conditions of welfare everyone needs to know to protect himself and to protect society as well.

As society is made up of the activities of man and the expression of his aims and ideals in these activities, industry is the warp and woof that knits together

the whole fabric, and makes man economically dependent upon every other man. What, then, shall be the medium for bringing this rich content of life to the child's experience, so that while he develops as an individual, and becomes more and more practiced in the instruments of communication and expression, he will also get his social bearings, and have the spirit of play at the activities of man preserved, and gradually transmitted into the spirit of work and participation in the industries of the world?

The school, as the recognized agent of society for giving the coming generation what the larger whole requires, has always been tardy in modifying its functions to the rapid changes in developing society. The sciences had a hard time breaking into the sacred precincts of the classics, in response to new discoveries and social needs. Manual training was no exception to the rule, and as the expression of the laboratory idea applied to secondary education, gained its recognition from the school almost solely upon disciplinary grounds of mental culture; but from the practical world of industry it sought and gained recognition because it taught the fundamentals to all the arts. It has evolved from this disciplinary conception of the tool and exercise, thru the Sloyd period to the art-craft stage. And most manual training of today is now in this stage of progress.

The emphasis has shifted from the disciplinary value of the process to the worth of the process in carrying out the constructive idea of the child.

There has developed a difference of opinion as to what should be the source of these ideas of construction—in other words, the content of this activity. Some believe that the chief value such construction has is in the opportunity it gives the child for the expression of the impressions received in history, reading, nature study, etc.

Some have taken almost the opposite view and have considered the different activities represented in construction as different forms of industry and have, therefore, developed the school work about these activities as a basis for the other subjects of the curriculum. The school problem is attacked from the industrial social side. The school work is correlated with some form of industrial work as a "center of interest."

Others, again, have given it an industrial content, a study of industries, but adapting the course to the developing stages of the child's growth. Beginning with the home and its activities, the child is led to connect its activities to those of primitive man, and each stage of man's development is recapitulated in his industrial activities until they are used to interpret the present life to the child.

This last conception of the content of the manual arts is indicative of the fourth stage in its evolution. They are a means of connecting the present industrial life to that of the school. The manual arts are no longer ends in themselves, but a means to an end, instruments of social service. As I understand this, it does not mean that all that is good in technique with its ideals of workmanship, or the useful and beautiful model or garment, the constructive

ideas of the child developing his initiative and efficiency, are to be any the less considered or neglected because we now see these factors as elements fundamental to industrial life, and change the viewpoint or avenue of approach to that of the social significance of the manual arts. We then start from the other end, and select those industries of dominant social worth of which these elements now making up a manual-training course are or may be typical problems.

There have been and are now a number of experiments that are seeking to make this ideal of the manual arts a reality in an ordinary school situation. One plan has made an analysis of the great forces that man has controlled for his own service and thru which the race has advanced industrially. Power in its various manifestations was considered: wind, water, steam, gas, and electric power, and from these, typical forms were chosen within the capacity of the pupil, who then proceeded to construct them, considering materials, tools, processes. Technique and workmanship were developed in response to a real need and the problem connected up with real life.

In the same way, transportation was made the central subject of the handwork, and the class, individually and together, worked out problems illustrating this factor in man's development. Shelter was next considered, and modern methods of building a brick house, even to the making of the bricks, formed the problem.

Another plan of industrial approach, thru the manual arts, has taken up the modern methods of manufacture. The class has taken paper-box making (cardboard work was the handwork for this grade and there was a demand for boxes) to work out first individually, and then as a class, each individual making only a part—"doing piecework." The conditions affecting the worker and the product were considered by the class and the advantage of co-operation in the amount and uniformity of the product, and the disadvantages as to the individual pieceworker if limited to the one process.

These two plans, one from Newark, N.J., the other from Boston, Mass., show what can be done under present school organization. They also show that very capable teachers are necessary, and whether we reorganize the system or not, more money for the schools is a necessity if they are to perform this larger service in education.

Mr. Oscar L. McMurry and Mr. Frank McMurry[1] give a very clear statement of this point of view.

> In order that a body of thought may take high rank as a study, it must consist of more than a few isolated concrete pieces of work. These must be both numerous and closely interrelated, or, at least, if not so connected as to form a unified whole, must consist of topics capable of forming thought complexes of considerable magnitude. In addition to that, they must find their origin in some broad and deeply significant phase of human life comparable to that of literature or history.
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> Now the manual arts are the special representatives in the public-school curricula of the productive activities, consisting of selected parts of the trades and industries. The number of these is legion. Consider under the broad division, "shelter," the group involved

[1] *An Arts Course for the Grades,* Chicago Normal School Press.

in house-building alone, such as carpentry, masonry, plastering, plumbing, heating, lighting, glazing, trimming, painting, and decorating, and the many upon which these are directly dependent, as for instance, lumbering, milling, brickmaking, manufacturing of hardware and of plumbing goods, glassmaking, etc. Again, under "clothing" consider the making of a simple skirt which, as we see, involves some knowledge of weaving, spinning, the nature of the raw material used, such as cotton, wool, or silk, the dyeing, soap-making, and laundering. Under "food" it is seen that cooking is directly concerned with gardening, milling of grain, canning of fruit, plumbing, and a score of occupations.

Thus the groups of facts in these fields are extensive and interrelated. These industries, too, have a far-reaching physical and ethical bearing on mankind, directly involving the welfare of all the people.

The manual arts, therefore, as representatives of the industries, and including principles of both construction and living, are highly worthy of respect and of a place on the school program. . . . . Enough valuable thought bearing on industry can be offered to quicken and sharpen wits, not only for the sake of greater mental quickness and acuteness in general—or, indirectly, of making tradesmen and industrialists out of pupils—but of making them more sympathetic and intelligent in regard to such pursuits and convincing them that opportunity and greatness lie within those fields, as well as without.

In determining the parts for such a curriculum, based on the belief that the cultural idea of the manual arts is productive activity in the field of materials, they use the term *social industries* as best expressing the content and limits of the field, and they determine the choice of the trades and industries by the four factors: (1) their relative importance in social life remembering the individual environment; (2) the ability of the pupil; (3) interest to be excited by an industry; and finally (4) practicability from the point of view of equipment.

The industry having been decided upon, the conditions determining the individual tasks selected will be its capacity to throw light upon the character of such an industry and the closeness of its relation to other chosen topics.

I have referred to these examples of the changed point of view arising in the manual arts for several reasons. First, in answer to the criticism that the manual arts have failed to help the working-man. It is not the province of the elementary school to teach vocations as such, and again, the children who later make the so-called working-class are even now directly unaffected by any manual training, for they leave school too early. Second, some believe that manual arts have no value other than as a means for teaching applied design, or of affording a means of expression for the other subjects of the curriculum. While this may be true of some manual-art courses that have been emasculated by the academician, the critic ignores the real elements of the manual arts and that they, too, are being socialized. And lastly, industrial education for the elementary period, believed to be a necessity, can be realized more quickly by using the manual arts we now have, modified to meet the situation.

What to do is clear. First, establish manual training, manual arts, or industrial courses, whatever name suits the need, in all our elementary schools.

The latest statistics give only 150 secondary schools out of a possible 9,000 as manual-training or industrial schools. Of the 1,300 city school systems, only one-half of them have any manual training and but 150 of them have work in all the grades and 100 have courses in the high school.[1]

[1] *U. S. Bureau of Education Reports.*

Tho manual training is characterized by one writer as a "fungus growth on an ill-proportioned and misshapen curriculum that needs not so much to be pruned and trained as to be uprooted and replaced by a more vigorous and more productive plant," this desirable attainment, much as we believe in it, cannot be gained by a revolution, but by evolution. The manual training of the past can be easily changed to industrial education, the need of the present, if its advocates and friends catch the significance of the social industrial movement of the day.

Such an organization of the curriculum is suggested by Dean Russell,[1] who recommends that the "instruction in the public schools be classified under three heads: (*a*) The humanities, including language and literature, history and civics, and the fine arts; (*b*) the sciences, including mathematics, geography, physics, chemistry, and biology; and (*c*) the industries, including the study of materials and the dominant processes in the successive stages of production, manufacture, and distribution.

This classification is a great step forward for it gives equal recognition to the three groups that make up human thought and achievement, and, if adopted, would give new dignity to the industrial arts and do much to correct the false standard of what is of most worth in the attainment of culture.

My contention is that children do differ in vocational aim and that, therefore, industrial education must be a necessary part of the elementary curriculum. To realize this, the present elementary period should be divided after the sixth grade, and the seventh and eighth grade, together with the first, and possibly the second, year of the high school, become an intermediate school with elective courses, one of which would be an industrial course leading to a trade or vocational school or back to the high school, or out to an apprenticeship and industry. The first six grades should be the elementary school proper in which the course would be the same for all pupils and based on child growth and the demands of society, and should have as one of its elements industrial education, manual training evolutionized, as a means of relating the schools to industry, and of making the child more sympathetic and intelligent in regard to the work of the world. And lastly, the first step forward is to modify existing manual-training courses and continue to establish them until they are a part of every school curriculum.

VOCATIONAL EDUCATION IN SECONDARY SCHOOLS

W. F. WEBSTER, PRINCIPAL OF EAST SIDE HIGH SCHOOL, MINNEAPOLIS, MINN.

The United States has become a rich and powerful nation. We recall that a narrow strip of land a thousand miles long was this whole nation in 1775. The three millions of people that dwelt along the Atlantic seaboard have multiplied and pushed westward over the Alleghanies, across the broad

[1] "The School and Industrial Life," *Educational Review*, December, 1909.

prairies, up the towering Rockies, and down the Pacific; and everywhere as they went, Proserpina-like, they have left scattered along their path the tokens of modern civilization—happy farmsteads, wonderful cities, palaces of art, and temples of learning. No wonder the great industries spring up in this land of limitless resources, or that the products of our factories have reached the enormous total of $14,802,147,087.00. Neither is it any wonder that the world's money market has moved from London to New York, and the United States is the only great nation whose exports exceed its imports.

Our wealth has been gained largely by the exchange of raw materials for gold; but when the day arrives that our coal, our iron ore, and our forests are gone, Americans, like other nations, will be forced back upon their wits. The battle for supremacy in the commerce of this world is to be a battle of brains. It is the vision of a dubious future that has turned the attention of business to the conservation of our resources and the development of our industries; for American industry has its one vulnerable point—its labor is unskilled. And it is to the public schools that the directors of large industries look for a supply of skilled workmen. The result is that business is fast industrializing education.

Yet business is not wholly responsible. Educators have long seen the need of training for youth that will save them from the helplessness of inefficiency. The education that served well the nineteenth century is antiquated in the first decade of the twentieth century. Now it is the ability to do something that the world wants done that our schools must give to youth.

And last to enter the field and advocate vocational training is labor. It has seemed a mystery to many of us that labor has waited so long; but until recently labor has been ignorant of its power to effect great changes in government; it has waged a continual struggle with capital; and it has looked upon schools for the development of skill as seminaries of scabs and strike-breakers. However, the dignified statement issued by the Federation of Labor at its Toronto convention is a prophecy of a large expansion in school usefulness and an absolute guarantee of the nation's advance toward industrial supremacy.

These three classes of society—the representatives of business, the representatives of labor, and the representatives of education—must counsel together if we are to have a true solution of this greatest economical problem before the American people today. In their deliberations base selfishness must be eliminated. Only two master motives should guide them—a wish to help youth forward on the journey toward success, and a desire to make America leader in the realm of commerce.

A few principles seem pretty well established. It has been demonstrated that differentiation of pupils into certain large groups may safely begin as early as the seventh grade; yet the definite choice of a vocation must not be made before the high-school period. No person can feel reasonably sure of his advice to a boy on this momentous question until he has entered the period of his adolescence. This is the time when the youth reveals himself and

announces by unmistakable traits the work in which he is qualified to gain success; and it the time when leg and arm and hand most readily adapt themselves to the demands of the chosen life.

Moreover, vocational training in secondary schools should be just what its name indicates—real training for the trades. Whatever occupations are chosen, these should be the center around which all the other work shall be ordered and arranged, so that the whole shall be one symmetrical unit. The atmosphere of the laboratories should be the atmosphere of a well-conducted shop. Accuracy and skill should come first; but quickness at work, real trade efficiency should always be kept before the youth; for his value in the world depends quite as truly on how much he can do as upon how well he can do.

In order that the vocational idea may dominate all the work, and also that a real increment of skill may be gained, a large part of the day must be given over to labor with the hands—at least one-half the time. Even then there is a remainder large enough to give all the theory necessary for most crafts—much more than is now possessed by many workmen—and, in addition, to impart some needed information concerning the duties of citizenship and the rights of men. For if we may believe those in this work, the avidity shown by boys in gaining knowledge when it contributes definitely to the calling by which they propose to earn a living will compensate in no small degree for the shortened hours. Have the school day a full eight-hour day, divided about equally between study and recitation on the one hand, and the shops and laboratories on the other; and this work time should be spent in a real workshop, where real things are being done, under the guidance of real workmen.

In such a school the theory of any occupation can be taught and some degree of proficiency can be acquired; but it is not easy to carry the work so far as to make of our graduates journeymen in the trades. Efficient skill follows continued repetition and large practice. It is very difficult for schools to obtain stairways to build or steam plants to install. For finishing off a journeyman, it seems much wiser and more economical that a boy should be indentured to some employer to serve from one to three years as an apprentice. But right here arises a difficulty. The labor unions, in order to protect themselves from an overcrowded labor market, have limited narrowly the number of apprentices a shop or a contractor may employ; nor has the master workman always been at great pains to teach an apprentice the mysteries of his craft. Some new adjustments must be made; the leaders of organized labor should come to the aid of the schoolmaster. For the youth of this land have the right to demand of their fathers and of the state the opportunity of choosing and learning a trade. And if narrow selfishness seals the ear against the pleading of thousands of sons, then the state will be driven to assume the entire responsibility for apprentices and master workmen. What reason can be urged for limiting the number that may enter the trades that cannot,

with even greater force, be urged regarding the professions? Restriction of numbers should not be secured by saying to youth "You will not be permitted to learn this trade"; but the trades should be guarded as the professions are guarded, by examinations, so that only the worthy are admitted. The lazy, the ignorant, the unskilled are today an incubus upon labor; and they bring the whole body of organized labor into disrepute and ill-favor with employers. Allow only skilled workmen in the unions, make of each organization a body of intelligent men, striving to render all its members of greater service to the community, and labor will attract to its ranks the best blood of the nation and acquire a dignity and standing in the earth which it has not yet attained. Then the law of political economy which regulates the market for other products will operate in the labor market; and the numbers seeking a given trade or profession will rise or fall with the fluctuations of supply and demand.

And again, if we are to retain the fluent qualities of democracy, if we are to escape the slow hardening of society into layers, vocational training must be kept in close touch with the other work of the school. It is true that the air of a shop can be best secured where no other education is being carried on. It is also true that what is needed today even more than industrial training in our schools is a high regard by every class for real work, no matter what it may be, or wherever or by whomsoever it may be done. And if the alternative be this, the present association of all classes in the democracy of our high schools, or the segregation of those that labor with the hands from those that are to make a leisure aristocracy of wealth and snobbishness, then industrial training would better be abandoned: for this nation will survive even with our present methods of education; but a democracy cannot long endure where the whole plan of instruction encourages the haughty selfishness of plutocracy and domineering arrogance of a ruling class. Big-hearted, broad human sympathy, a recognition of the worth of every man that honestly toils, a feeling that a man's a man for a' that he may pour a mold or wipe a joint, comes from an intermingling of humanity, and a consequent understanding of one by the other; and this association is possible only before the paths of life lead men apart into the vocations of manhood. All must learn together—some Latin, some bookkeeping, and some steam-fitting. And while laboring side by side, each will gain the prize he seeks; but with the acquisition of knowledge and skill, there will flow a yet richer blessing to democracy—a certain largeness of sympathy, free from suspicion and selfishness, a sympathy so big, so all-embracing that it presages the dawn of a new day, when labor and capital shall know each other, and peace and good will shall dictate the policies of the leaders of industry.

And yet another and possibly a greater advantage will follow from retaining our present method of organization. Life disasters will be even more frequent than now if the early choice of father or child is irrevocable. Life for the average workman is narrow and circumscribed; his vision seldom

penetrates beyond the gray windows of the shop where he toils. After labor is done, his associates are his fellow-workmen. In this limited confine he lives; and here he gathers about him his family. When the time comes that he must choose the course of his child's life, he naturally turns to the occupations he knows; and the child is in all probability set in the path of his father. The child of the mason will take up his father's trowel; the barber's son will find his place at the barber's chair; Harry Biggerstaff will succeed Tom Biggerstaff in the little blacksmith shop. Moreover, until the boy reaches his twelfth year, his father or one of his father's companions is his ideal; and in realizing this ideal he believes he will find his greatest happiness. A choice at this time might be disastrous; for the conditions surrounding both father and son make a wise choice almost impossible; and the determining influences of home and environment conspire together to hold the child of the trades-classes in the stratum of society to which he was born. To offset the mistakes of ignorance and the restriction of environment, and to allow each youth to find the work that he can do best, freedom to shape his growing life must be his. The insurmountable barriers that hedge in the children of the laboring classes must be broken down; and liberty, which makes it easy for a boy to pass from one vocation to another, if he finds that some one has blundered, must be substituted for the bondage almost sure to follow the infinite differentiation of this industrial era.

And how many a time have we all met a youth in the middle of his high-school course still undecided upon the question of his future calling! He does everything well; so far there seems to be no special adaptation that calls him to some peculiar field of endeavor. How easy to send him to a trade school or a commercial school and make of him a fair accountant or machinist, when some years later he makes the sad discovery that he should be an architect. The separate commercial school had disclosed but a small sector of life's pursuits; he was not privileged to look upon the whole circle of vocations. Soon the obligations of manhood are upon him, and change is impossible; the shades of the prison-house begin to close about the growing youth. The soul of a builder of cities withers in the breast of a commonplace bookkeeper.

I realize that the period of childhood will be yet further lengthened by such a system; but that is the law of advancing intelligence. Children will not so early become productive money-getters; but shall we thrust children into shops and factories, while men go up and down our streets begging for work? And what matters it to this nation whether the balance of trade is a half billion or a billion in our favor? It is enough as it is. Fifty years from today the United States will look across the great seas and find there but one rival—all Europe combined. But if human life is worth more than steel bridges; if life-happiness is to be weighed against bank-balances; if success is to be reckoned in joyous satisfaction, and a nation is honored more by its men than by the stifling power of mammoth combinations of wealth; then the American school with all its present freedom and fluency is the ideal school

for a democracy, which still holds to the truth that all men are created equal and endowed with certain inalienable rights—among them life, liberty, and the pursuit of happiness.

And it is for an extension of our American education that I plead. It is men that this nation needs—not arms, not fingers, not eyes—working fragments of men; but whole, integral men—men whose hands are strong, whose brains are thinking, whose hearts beat high with hope. But a courageous spirit seldom dwells with an empty stomach or a shivering back. It is not so hard for a man to be true to himself when he knows that his two strong hands guided by a trained mind can win for those he loves the comforts of life. Poverty cannot demand of such a one the sacrifice of principle; the cries of hungry children will not drive him to abdicate manhood's throne. With feet planted firmly on the solid earth of self-support, he throws his shoulders back and breathes the free air of manly independence. Every youth that has the indwelling consciousness of strength to meet the world with its hardships and discouragements holds the surest prophecy of a life of usefulness; and a high character in the youth of a nation is a firm foundation of true greatness and a sure promise of enduring grandeur.

TRADE UNIONS AND INDUSTRIAL EDUCATION

W. B. PRESCOTT, SECRETARY, INTERNATIONAL TYPOGRAPHICAL UNION COMMISSION ON SUPPLEMENTARY TRADE EDUCATION

In the busy world of today it is almost impossible for one to acquire an accurate knowledge of the purposes and methods of all the social-uplift movements. Consequently there is bound to be a great deal of misconception and misrepresentation. Trade unions, being primarily opposed or inimical to great interests and being composed of poor men who wield little influence, and who have not yet seen the necessity for maintaining press agents, are especially the victims of misrepresentation. I do not know that they have been misrepresented more on the question of technical or industrial education than on any other features in their activities, but I am convinced that those who believe unionists to be opposed to education are mistaken.

True, there are some forms of industrial education to which they are opposed and to which any man ought to be opposed. To put that as briefly as possible I would say trade unionists are opposed to any form of industrial education that has for its main purpose the exploitation of the student or pupil. We do not take such high ground as to say that because a commercial educational institution has made a great deal of money in a very short time that it is an exploiter. In America we have several examples of that sort of school, and I have never yet heard of a trade unionist saying they were inimical to the public welfare simply because they made money. I have, however, heard a prominent and representative educator refer to that as a species of exploitation. The trade unionists reserve their shafts of criticism for those forms of

education which tend to narrow the student's mental outlook and make him more dependent than otherwise. They are also opposed to educational institutions that turn out incompetent and inefficient mechanics. Perhaps to the outsider they are unnecessarily bitter in the denunciation of this sort of school, but the outsider does not know as the worker does what a serious social blight inefficiency is. The man who is turned out of the so-called trade school a mere specialist, and an indifferent one at that, is never sure of steady employment. Precarious employment not only means decreased earning capacity, but it subjects the victim to temptation and compels him to live under conditions which unman him and retard the development of his character. Only those who have tried it have any conception of what a hell it is to spend one-third or more of one's time tramping from door to door seeking employment. The rebuffs and humiliations crush all but the proudest spirits, and in time ambition is superseded by the spirit of "don't care" and "what's the use?" Those who are in the midst of this and count among their acquaintances life wrecks by the score do feel strongly, and have a right to feel strongly about any method of education which sends a youth into the world with the baleful handicap of inefficiency. The prominence given the subject of trade education will necessarily involve educators of all degrees, and it is my impression that they will find organized labor insistent upon proof that an educational scheme will be thoro before the plan will receive the indorsement of trade unionists. The co-operation of organized labor is of considerable importance. You may possibly regard it with disfavor, but it is the voice of the worker. No other element in our community knows so well what workers need or their aspirations as does organized labor. True, the worker as such exercises comparatively little influence in the governmental world today, but what influence he does have comes to him thru organization. You hear a great deal about organized labor butting in, but have you ever heard of any great interest stopping to heed the protests of unorganized labor? That is a voiceless multitude.

Irrespective of the sway of labor in political matters, its influence will loom large in the subject of industrial education.

The United States Commissioner of Labor's report for the year 1902 treated of trade and technical education. It was, in fact, a world-wide review of what had been done in this line. It is noticeable that in the early days of industrial education in Continental Europe and Great Britain many efforts proved failures until they were placed on such a basis as to invite and secure the co-operation of the labor element. Indeed, how could educators and boards of education ascertain what mechanics and artisans desire to learn or believe should be taught in any sort of school without consulting them? You must always remember that in establishing industrial schools the courses are not primary courses to be shoved down the throats of children, but that you will have to demonstrate that what you are teaching is of real social and commercial value before you secure scholars worth while.

Among the adult workers there is a very large element that should be taken into consideration. It is composed of the men who have chosen a life vocation and by reason of the specialization inherent in present-day industry have not had an opportunity to become well grounded in the principles of their respective trades. They are known as specialists, and tho this is the day of specialization, these specialists differ somewhat from the specialists who are held up to the public as examples of what is possible by specialization—lawyers, physicians, engineers, financiers, etc. The professional man has been well grounded in the underlying principles of his profession and out of that knowledge selects his specialty. The mechanic or artisan, on the other hand, is all too frequently a specialist because he knows nothing else. The professional develops a specialty out of his wealth of knowledge; the mechanic or artisan remains a specialist on account of his ignorance. In many of the industries being a mere specialist ties the mechanic to the wheel. He must stay in that shop or confine his activities to that one particular process. This makes the laborer dependent, because he has lost what has always been labor's chief asset—mobility. He cannot move from shop to shop or from place to place and is therefore less capable of bargaining for wages than the all-around man who can move from process to process, if not from place to place. Specialization also means intensification of production, which in turn means that the dead line is reached earlier in life, and a man's earning capacity is considerably affected by this. When he begins to feel the effects of age he finds himself competing with younger men, in a field where the desirable quality is speed. There is little chance for the use of stored-up knowledge, which is the saving grace in the professions. Speed, and nothing but speed, is the factory god. It is obvious that under these conditions the specialist in mechanical pursuits is at a very serious disadvantage when the hair begins to turn gray and the children reach that age when they are most in need of financial support from the bread-winner—the age of about sixteen when the selection of a vocation for life is made. Parents at that time should be sufficiently independent to be able to invest a little capital in seeing that the boy or girl is started on the right road. Unfortunately the father just about then begins to feel his powers declining and stands in mortal dread of being let out of his trade on account of inability to keep the pace.

In my opinion any system of industrial education supported by the state or city should have a place for these men. If such an opening is made it is almost a surety that you will find trade unionists not only willing but anxious to co-operate. In fact several unions are already doing work in this line, not having the patience to wait for the state to perform what in the opinion of working-people is a very natural and proper function. In my own trade we have a system of supplemental trade education which has been so successful that the labor organizations of the cognate trades are discussing the feasibility of developing systems of education along similar lines. Perhaps the need and purpose of supplemental education as applied to the trades can best be ex-

plained to you by an account of the methods of the International Typographical Union course in printing. In the compositor's trade it is a generation-old story. A boy is taken into a printing-office; the foreman soon discovers the process for which he shows the greatest adaptability and keeps him at it. In due time he becomes a journeyman but with little knowledge of the trade other than his particular process. This is regarded as an evil. The limitation of apprentices by unions is not all due to selfishness. A very great part of the moving force behind it is a desire to insure boys a fair opportunity to learn the trade. This of course would be impossible if an unlimited number of apprentices were permitted. But in time the offices became specialized and it was impossible for the great number of them to undertake to teach a boy anything outside of its special line of work. Then it was that it began to dawn upon the trade—employers and employees—that neither one nor the other was responsible for the condition, but that the old-time apprenticeship system has been very largely eliminated by reason of the changed industrial conditions. Naturally the union was the first to feel the effects of its ranks being filled with men who were one-eyed specialists, thru no fault of their own but as a result of an environment which they could not alter. All realized that it would be far better for the journeyman if he had a wider knowledge of the industry. After a protracted struggle in which the union spent upwards of $4,000,000, the eight-hour day was adopted in the trade. This gave to the members leisure for cultural development; and I may say here that those in favor of industrial education will be howling dervishes in a wilderness of indifference while the workers are compelled to labor long hours. The first step to a successful system of industrial education is leisure for the prospective student. The echoes of the eight-hour strike had not passed away before the typographical union had appointed a commission to "formulate some system for the technical education of our members and apprentices." That action was taken in August, 1907. In December of that year the commission was organized, and in March of the following year—just two years ago—it launched its course. The commission found it had a problem on its hands, for it had to devise some method of education which would be within the reach of every one of the nearly 50,000 members of the union. Some of these are employed in the most highly developed metropolitan offices, while others are found working in primitive shops in communities that are able to support only seven or eight printers. The establishment of schools equipped with printing-plants would be far too expensive, and such schools must perforce be in large printing-centers such as Chicago or New York. This would deprive union members in small towns of an opportunity to participate in the educational benefits. The commission also discovered that the tendency in typographical schools here and abroad was to educate along empirical lines. The instructors would say this piece of work is good or that bad and when asked for the reason had none to give other than that it was pleasing or displeasing to the personal taste of the teacher. This was very unsatis-

factory, as there was no real basis for instruction. The commission discovered, however, that the Inland Printer Technical School had sent men to art schools for the purpose of studying design and color harmony and other art principles which were involved in display and decorative typography and that the instructors at this school were teaching a handful of students the "why" of good typography. Now it must be remembered that every compositor can set type, but the mere typesetter's days are over. Machines have rendered that a very precarious method of making a livelihood. On the other hand there is a constantly increasing demand for what is known in the trade as display or job men. Thousands and thousands of journeymen printers of today have had little or no opportunity to develop themselves in those branches. So general is this condition that there is creeping into the compositor's trade an adjunct known as the designer, who is usually a product of the art school. He takes the job, sketches the manner in which it is to be set, and covers it with instructions so minute that the compositor has little or no opportunity to exercise his ability. Of course, this mere following of instruction would lead to mental lethargy and the ultimate degradation of the trade to a low mechanical level. The commission felt that its mission was to meet this situation and to supply the wants which the printing-office did not fill. After investigation it was discovered that what was being taught in the Inland Printer school could be reduced to a correspondence course. This was agreed to on the basis that the school would provide the tuition and the union would bear all advertising and other promotional expenses, the course to be sold to students at about cost of tuition. In addition to these expenses the international union gave a rebate of one-fifth of the cost to every student who pursued the course to the end with ordinary diligence and intelligence. This prize or rebate has been supplemented by many local unions in various ways. Some give another $5; others offer to co-operate with employers in securing the course for apprentices; and still others make a substantial reduction in initiation fees to apprentices who are students of the course. The cost of the course is $23 for cash or $25 if paid in installments of $1 a week. As there are thirty-seven lessons and the student learns by doing, you can readily see that this is education at cost. As a matter of fact, were it not for the expenditure by the union, the course on a commercial basis could not be sold for less than $50 or $60.

We teach the student freehand lettering mainly for its cultural value, tho it has a great commercial value for the printer of the future. The display or decorative compositor is an artist and his work is good or bad in so far as it adheres to or departs from the principles of design. And here it is that the course of the International Typographical Union differs from other printers' educational efforts at home or abroad. It teaches the principles of design as they can be applied to the compositor's business. He is then in a position to defend his work. If a customer objects he can say and prove that it is properly balanced, in proportion, and correct as to tone-harmony.

Heretofore color has been regarded in the trade as a matter of personal taste. We raise it from that level and teach it scientifically and in such a manner that when the student is thru with the group of lessons treating of this subject he has made for himself a color-chart which is an absolute authority on the contrasts and harmonies of color. In these groups of lessons we teach principles, and the student is learning why his work is good or bad and why he should do some things and avoid doing other things. The method is far superior to that of instruction by textbooks for the reason that we took out of art courses those things on design and color-harmony which the printer wants to know. The lessons and instruction are prepared by printers. The result of this is that a very capable printer—a gentleman sixty years of age—who became a student of our course said that he learned more of value to him as a printer from our lessons than he has ever been able to acquire in exhaustive study of textbooks on color and attendance at many lectures. That he was no sluggard as a student is evidenced by the fact that he learned two foreign languages in order to be able to read up in the original. The reason for this experience is that when he read textbooks and attended lectures the writers and lecturers were concerned about upholding or demolishing some theory of color and passed up as belonging to kindergarten classes those elemental things which the printer ought to know. Our course, having been prepared by printers for printers, does not make that mistake. Quite recently Professor Sargent, of the University of Chicago, dropped in on the Commission and looked over its work. He was asked if with his knowledge of art and his standing as a pedagog he could do much more for our students than our instructors were doing. He made this significant reply: "No indeed! I could not do better for the reason that I am not a printer." This is an important feature of trade education and emphasizes the reason why organized labor should be consulted in the development of any system. It is strong presumptive evidence—if not conclusive evidence—that unless the worker himself has to do with the instruction the curriculum will not be at all satisfactory.

In the groups of lessons treating of lettering, design, and color-harmony, the printer is learning the principles that govern in his work. Having acquired these principles he is on an equal footing with the designer, and in addition to the principles he has what we might call typographic sense. The result is a better product more cheaply produced. We have had numerous illustrations of that. As a rule the designer does not comprehend the limitations and difficulties the compositor has to contend with. Before the job has proceeded very far modifications of the original design are found to be necessary. Then there is the lack of harmony between the designer and the man who executes the work. The International Typographical Union course equips the compositor for the work of the designer, and as a natural consequence there is complete understanding, sympathy, and harmony from the beginning of the job to the end of it, because the designer and compositor are one

and the same person. Of course there are many other lessons in the course of a technical nature which I have not the time to detail. The method pursued in inculcating this knowledge has been said by adequate authority to be about the best in use. The student is required to send in a copy of his work, be it lettering, balancing measures in design, the selection of colors for jobs, or the designing of various kinds of job work. This is taken by the instructor, gone over very carefully with a differently colored pencil, pointing out the defects in the student's work. While the instructor is doing this he is talking into a phonograph record, explaining his views and giving such information as it is thought the student needs. The talk—and we find it better with all its crudities of expression than a more polished and stilted letter—is then transcribed on the typewriter and returned to the student along with his lesson. This gives him the advantage of a blackboard illustration and oral instruction. Really the value of the course does not lie so much in the printed lessons as in the instruction given in this way. We also require our students to criticize work, compelling them to answer many questions, largely on the theory that one does not know a thing until he has told it to some person else.

The attitude of trade unionists toward education may be gauged by the success of this effort. Among economists who pay particular attention to labor matters, the Typographical Union is regarded as the typical American union. What it has done in the past other organizations have followed, and doubtless its efforts in the educational arena may be taken as a presage of the general trend among trade unionists. The course is not quite two years old and fifteen hundred students have been enrolled, notwithstanding the intense prejudice in the printing business against correspondence-school methods. Other unions who come in close contact with compositors have been watching this effort and we find that every one of them has within the last year appointed a committee to develop systems of education for the benefit of its members. To say that unions are opposed to trade education in the face of such a showing can hardly be called anything else than misrepresentation. True, we may be accused of being somewhat backward in handling this subject, but it must be remembered that American public opinion is somewhat backward also if we compare its status with that of Europe or Australia. The natural resources of this country have relieved the people of the necessity of establishing industrial education, but now the matter is up there is every reason to believe that the American trade unionists look on it in much the same light as their fellows elsewhere. In Germany, France, Great Britain, and Australia they did not combat industrial education. They did, however, oppose meretricious forms and, in many instances, successfully. So it will be here.

So far I have spoken generally on the subject and directed attention to some actual work which would seem to be first-class evidence of good faith. If you ask me for a definition of organized labor's position toward industrial

education at present I cannot do better than refer you to the action of the last convention of the American Federation of Labor which was held at Toronto, in November, 1909. It recommended a continuance in the progressive development of supplemental trade education such as is undertaken by the International Typographical Union and some other organizations, and in connection with that course it stated:

> Educators, as well as others of wide experience, believe that, for the adaptation to an end, this school has no equal. It also marks a new era in education, and one of its chief assets, other than the education of its students, is that public and private interests are emulating its example. It is worthy of mention, however, that large sums of money are annually expended by trade unions for education, thru the channels of official journals, and in some instances its members are being trained for the teaching profession; and the preparation of text-books is another undertaking. And the committee further recommended that all trade unions which have not adopted a system of technical education give the matter the consideration it so richly deserves; and we further believe that the present undertakings of the unions call for the most enthusiastic admiration, and are entitled to the most cordial and loyal support.

On the question of supplemental technical education, by which is meant the teaching of the underlying principles of trades to those working as apprentices, the Federation says:

> The demand for such instruction is measured by the necessity for training in particular trades and industries, and the chief aim of such instruction should be to present those principles of arts and sciences which bear upon the trades and industries, either directly or indirectly.
>
> The economic need and value of technical training is not to be disregarded, and cognizance should be taken of the fact that throughout the civilized world evening and part-time day technical schools enroll twenty pupils to every one who attends the other types of vocational schools.
>
> And the committee submits for consideration and discussion to the convention the proposition that there be established, at public expense, technical schools for the purpose of giving supplemental education to those who have entered the trades as apprentices.

You, as public-school men, will be more largely interested in what the Federation terms "technical industrial education," concerning which it makes this pronouncement:

> We favor the establishment of schools in connection with the public-school system, at which pupils between the ages of fourteen and sixteen may be taught the principles of the trades, not necessarily in separate buildings, but in separate schools adapted to this particular education, and by competent and trained teachers. The course of instruction in such a school should be English, mathematics, physics, chemistry, elementary mechanics, and drawing, the shop instruction for particular trades and for each trade represented, the drawing, mathematics, mechanics, physical, and biological science applicable to the trade, the history of that trade and a sound system of economics including and emphasizing the philosophy of collective bargaining. This will serve to prepare a pupil for more advanced subjects, and, in addition, to disclose his capacity for a specific vocation. In order to keep such schools in close touch with the trades there should be local advisory boards, including representatives of the industries, employer and organized labor. Any technical education of the workers in trade and industry being a public necessity, it should not be a private but a public function, conducted by the public and the expense involved at public expense.

Organized labor's position in a general way on the educational problem is officially expressed in these terms:

Organized labor's position regarding the injustices of narrow and prescribed training in selected trades, by both private and public instruction, and the flooding of the labor market with half-trained mechanics for the purposes of exploitation, is perfectly tenable, and the well-founded belief in the viciousness of such practices, and consequent condemnation, is well-nigh unassailable.

Organized labor's record for years in regard to better sanitary conditions in factories and workshops, and its continued efforts toward safeguarding women and minors, have been the subject of wide discussion and much helpful legislation.

Its advocacy of free schools, free textbooks, and the raising of compulsory school age have been religiously adhered to, and closely allied to these subjects is that of industrial education, and any serious discussion of the proper kind of vocational training promotes discussion of the former.

There is a strong reaction coming in general methods of education, and that growing feeling, which is gaining rapidly in strength, that the human element must be recognized, and cannot be so disregarded as to make the future workers mere automatic machines.

Experience has shown that manual-training-school teachers without actual trade experience do not and cannot successfully solve this great problem, and that progress will necessarily be slow, as new teachers must be provided, a new set of textbooks will have to be written, and the subjects taught in a sympathetic and systematic manner.

In the last analysis, it is of greater moment to those engaged in industry whether this question should be discussed freely and fairly than it is to mere theorists, who advocate industrial education without having any definite plan or purpose (other than a selfish one), in their advocacy of the same, and it is believed that a unification rather than a multiplication of effort is needed in order to help solve this immense problem.

It is believed that the future welfare of America largely depends on the industrial training of our workers and on *protecting* them.

If the American workman is to maintain the high standard of efficiency, the boys and girls of the country must have an opportunity to acquire educated hands and brains, such as may enable them to earn a living in a *self-selected* vocation and acquire an intelligent understanding of the duties of good citizenship.

No better investment can be made by taxpayers than to give every youth an opportunity to secure such an education. Such an opportunity is not now within the reach of the great majority of the children of the wage-workers. The present system is inadequate and unsatisfactory. Only a small fraction of the children who enter the lower grades continue thru the grades until they complete the high-school course. The reasons which seem to be the prime causes for withdrawal are, first, a lack of interest on the part of the pupils, and secondly, on the part of the parents, and a dissatisfaction that the schools do not offer instruction of a more practical character. The pupils become tired of the work they have in hand and see nothing more inviting in the grades ahead. They are conscious of powers, passions, and tastes which the school does not recognize. They long to grasp things with their own hands and test the strength of materials and the magnitude of forces.

Owing to past methods and influences, false views and absurd notions possess the minds of too many of our youths, which cause them to shun work at the trades and to seek the office or store as much more genteel and fitting. This silly notion has been shaken by the healthy influence of unions, and will be entirely eradicated if industrial training becomes a part of our school system, and in consequence of this system of training the pupil will advance greatly in general intelligence, as well as in technical skill and in mental and moral worth, he will be a better citizen and a better man, and will be more valuable to society and to the country.

DISCUSSION

GEORGE H. WHITCHER, superintendent of schools, Berlin, N.H.—There is a large degree of indefiniteness surrounding the terms "manual training," "mechanic-arts training," "industrial training," and "vocational training," and while I have no license to define these terms for others I have the right to define them for the purposes of this paper in order that certain conclusions may be viewed in relation to the premises upon which they are based.

MANUAL TRAINING

For reasons purely psychological, manual training is a pre-adolescent adjustment—part of the series of accessory co-ordinations dealing with the finer muscles of arm and wrist, hand and fingers. Tools are used as means whereby this neuromuscular adjustment is effected.

The method is non-scientific. As well might we attempt to formulate rules for the guidance of babies learning to walk as to lay down scientific principles governing arm and hand movements in whittling, sawing, planing, etc.

The problem of manual and mechanic-arts training, as it presents itself to the public school, is primarily an educational and not a vocational problem, and most emphatically its chief end is not making of carpenters, machinists, blacksmiths, or other artisans, but rather its function to serve as a part of the many educative agencies employed in making efficient men and women. It is a grave mistake to suppose, as some do, that the public school ought to train narrowly in the direction of any vocation, or to assume that industrial education means trade schools, and it is even worse to argue that the "man side" of a boy's development is jeopardized by an education that provides opportunity for establishing an effective co-ordination of mind and hand, a theory advocated in a recent book, which, if carried to its logical conclusion, must result in an aristocracy of learning as set over and against a proletariat of labor.

The objection to the vocational point of view is chiefly psychological; no one will deny that an adult becomes more efficient by working in a cotton mill, but what is good in the case of the adult is absolutely fatal to the welfare of the child. Again, the requirements in that case of vocational training are unpedagogical and necessarily so. The apprentice must by much repetition secure great accuracy of result, but successive repetitions result in less and less exercise of the higher brain centers until a time comes when the movements are almost without thought, that is, automatic, and the worker guides the machine with little interest, his mind wandering here and there with a minimum of attention while his hand, habituated to a few movements, might almost be said to act independently of the higher centers; all this is fatal to educational effectiveness.

The teacher in the public school must never forget that "skill is developed thru repetition until the process is performed accurately and rapidly with little mental effort, beyond that involved in initiating the motor activity demanded by the process."

For this reason skill is not an end to be striven for in manual and mechanic-arts training in the public schools. Instead of making, say a dozen penholders, paper-knives, cold chisels, etc., aiming to come closer and closer to the *one mental image*, the pupil should construct a dozen different models, each requiring a *new mental image*, thus keeping the higher brain centers active and reflex control subordinate. These things are fundamental in the public school because with children we are primarily concerned with superimposing a higher order of brain centers upon a lower, therefore the higher centers must be used, not suppressed.

To the boy of eighteen whose intellectual powers are well established, the learning of a trade, with the accompanying relegation of motor control to the reflex mechanism, is not seriously detrimental, altho even at this age it would be better, if possible, to work toward the educational rather than the vocational ideal, but to the lad of twelve or fourteen any vocational scheme with its necessary accompaniment of supernormal exactness, of

endless repetition and the inevitable automatizing of movements is nothing less than criminal since it must result in arrest of the higher human brain qualities.

Any scheme looking toward the incorporation of trades schools in the public schools until the attendance age is raised to at least the age of eighteen years is a dangerous scheme. It seems strange that after fighting factories and shops for prematurely vocationalizing boys and girls we should now see so many signs of a tendency to turn our children over to these same factories and shops under the mistaken notion that they are better qualified to educate children than are the men and women who have devoted their lives to the teaching profession. Either we were mistaken in taking the children out of the shops or we are making a mistake in putting them back again.

Just at the present time we are approaching the danger-line in educational matters. Our friends, the college men of the ultra-cultural type, would divide society into two groups, "aristocracy of learning" and a common class of workers; for the former they would provide an education that just fits this mythical "man side" notion, while for the latter the call for bread is to be answered by providing the "solid rock" of vocational training. This, however, is not the worst of our troubles, for recently a new brand of educator has arisen who would establish three classes in society, a top crust of employers of labor, a bottom crust of ignorant workmen, and a filling of skilled strike-breakers narrowly educated at public expense in the public schools. These new educational leaders consist of general managers, vice-presidents, or presidents of great labor-employing corporations.

Sometimes they admit that their interest is "purely a business matter." Of one thing they seem sure, namely, that they can educate our boys so that they will at least fit into *their business* better than they do now.

It is prudent for us at this time to keep our education treasure-boxes locked.

I remember the men who have opposed our present entirely inadequate fourteen-year attendance law and I know just what influence would line up against any movement looking toward increasing the limit to sixteen years where it ought to be. And I know that generically it is these same men who are most solicitous as to the kind of education that shall be given to our boys. I am therefore "suspicious of the Greeks" even when they tell us specifically just how and what the public schools ought to do to educate boys.

ROUND TABLES

ROUND TABLE OF STATE AND COUNTY SUPERINTENDENTS

TOPIC: THE COUNTRY CHILD

I. THE NECESSARY ONE-ROOM SCHOOL

HOWARD A. GASS, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION, CITY OF JEFFERSON, MO.

I am an advocate of consolidated schools whenever and wherever it is possible to establish and maintain them. So far as my information goes, consolidated schools have met with universal approval. They offer opportunities that cannot be enjoyed by the students of the one-room school. They are growing in popularity and rapidly increasing in numbers. In my own state (Missouri), where we now have not to exceed twenty consolidated districts, I hope to see within the next two years not fewer than two hundred. But when all such schools have been established that conditions will warrant, there will still remain a large number, in fact, the larger number, of schools that must be taught in the one-room schoolhouse.

Until recent years the one-room school was the only school known in rural communities. The country people in times past have been taught in such schools. A majority of country schools will continue to be taught in one-room buildings. Certain physical conditions in

many rural communities make any other kind of school impossible. Impassable streams, bad roads, mountainous districts, sparse population make the one-room school necessary, in fact, the only school possible for com unities so situated. Schoolhouses, whether one-room or more, should be situated so that every child may have an opportunity to secure at least the fundamentals of an education. It must be remembered that some of the best schools in rural communities are the one-room schools. Every school, wherever located, should give the child a chance to so develop and train his powers as to make the best use of his opportunities in his life-work. The one-room school should give the child a thoro understanding of the fundamentals of an education. The essentials should be taught, and well taught, and this can be done by a good teacher in a one-room school as well as in a school of larger proportions. It is more necessary, probably, to have an expert teacher in the one-room school than to have such a teacher in a graded school. The teacher in the isolated districts must teach, and teach well, all of the subjects that the pupils of the school are capable of studying. The best and wisest management is that which secures for the one-room school the best teaching talent that a liberal community can provide and gives the pupils as many months of school and as careful instruction as can be had in the larger centers. The essentials should be so well taught as to enable the children of such communities to make their way in life should they not have opportunity to secure training in higher schools.

II. THE CONSOLIDATION OF SCHOOLS

ROBERT J. ALEY, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION, INDIANAPOLIS, IND.

No movement for the betterment of the country schools has attracted more attention than the one looking toward the consolidation and concentration of such schools. The fundamental notion back of this movement is the recognition of the need for equal opportunity to all children. That all children should have an equal opportunity to come into possession of the common knowledge of the race is a well-recognized principle in our government. That they do not have this equal opportunity is seen by anyone who takes the trouble to visit a one-room country school and a grade building in a good city system. Consolidation furnishes to the country child the advantage of the best graded school without the distractions incident to city life.

In a consolidated school where the teacher has control of one or at the most of but two grades it is a much easier matter to secure a good teacher with professional training than it is in a one-room country school. This is true because the teacher feels that with a narrower field of work it is possible to do much better and to grow faster in the profession. The economy of the consolidated school makes it possible to have longer terms than the same revenue would provide without consolidation. The longer term attracts the better teacher.

In a consolidated school it is possible to have a competent man in charge who is able intelligently to supervise and to direct the work of all the teachers. The result of this is better and more uniform teaching, as well as the prevention of many failures. The greatest difficulty in the one-room school is its utter independence from other schools and the lack of central supervision over its work. In the consolidated school all the best things practiced in any city system may be used.

The consolidated school, with its better teaching and longer term, interests the pupils to such an extent that a much larger number of them go on into the high-school work. Perhaps nothing has done so much to build up the high schools of this state as the consolidation of the rural schools. In fact, nearly all consolidated schools now maintain two-, three-, or four-year high-school courses. In the consolidated school it is possible to have drawing, music, manual training, and domestic science. Some of the very best work in these subjects is being done in the rural high schools. The whole curriculum can be enlarged and made to fit the needs of the community.

The teachers in these schools, because their work is limited to one or two grades, have the time and the opportunity to give much individual attention to the children. By doing this the number of pupils who grow discouraged and quit, or fail and drop out, is very greatly reduced. Indeed, it often happens that this individual attention results in the discovery of latent powers. Frequently those who were supposed to be very dull, because of the stimulus of individual care, become the leaders in their classes.

One of the greatest factors in favor of the consolidated school is that it enlarges the neighborhood. Instead of the old district unit of four square miles, it give the larger unit of twenty or thirty square miles. By means of this larger unit, the petty jealousies and narrow prejudices of the old smaller unit are broken down. All the children of this larger unit become acquainted and thus enlarge their horizon. The school itself becomes a social center where meetings for the promotion of all sorts of common interests are held and where splendid lecture courses are frequently maintained.

There are some serious objections offered to consolidation. Some of these are real and others are merely sentimental. Where the country is rough, streams numerous and difficult to cross, and the roads poor, consolidation of larger areas is not possible. In such regions it may be practical to combine only two or three districts into a consolidated school with two teachers.

As one looks back he is likely to enlarge the virtues of things that he knew as a child. There are those who oppose consolidated schools because in their memories the little red schoolhouse looms up as a great institution. Because it was good enough to meet the conditions of their childhood they argue that it is sufficient for the children of today. This objection will be overcome in time by the death of the objectors. While waiting for this to occur the education of the people to an appreciation of the greater benefits of consolidation will do much to overcome such sentimental objections.

In some cases the consolidated unit has been made so large that the children are compelled to remain too long in the transporting wagons. This objection, of course, can be met by reducing the size of the unit of consolidation. It sometimes happens that the drivers are not competent. It may be that they are unable to maintain the proper discipline or it may be that they are too careful of their horses to make proper speed. These objections are easily met by procuring good drivers.

To obtain consolidation two things are necessary. The people themselves, or a considerable number of them, must believe in the value of the system. There must be laws regulating the matter, either making it permissive or requiring it under certain conditions. These laws need not be long nor complicated. They should provide for the building of the houses and the paying of the drivers.

The experience of Indiana in the consolidation of schools has been satisfactory. Of course, here and there objections have arisen. In most cases the objections center about things easily remedied. In most of the consolidated units the people are highly pleased and could not be induced to return to the old one-room idea.

III. INDUSTRIAL WORK: IN THE ONE-ROOM SCHOOL, ITS KIND AND SCOPE

C. E. BYRD, SUPERINTENDENT OF SCHOOLS, SHREVEPORT, LA.

In treating this subject, we shall confine ourselves to the rural school the patronage of which comes from the farm. The term "industrial work" we shall interpret to include not only manual training in the usual sense but all kinds of work bearing on farm life for all of the grades, for both sexes, indoors and in the field, and its influence on the life-work of the pupil.

The problem of the rural school, like the poor, is always with us. No branch of public education has received more persistent, thoughtful, and scientific investigation and con-

sideration than has the rural school. It has been prominent on the program of every educational convention and conference held in this country for the last twenty years. It is a fruitful theme of the current magazines and writers on educational matters. It is up annually in state legislatures and the national Congress. It was a popular text frequently selected by our late strenuous president in his public utterances. The subject is of vital importance to the welfare of the people individually and to the nation as a whole. And yet the problem is still unsolved. The status of the rural school is still unsettled; its functions still undefined, or, if defined, still unfulfilled.

There is a prevalent belief that the rural school is not fulfilling its highest function, as is evidenced by the condition of the farm and the farmer, by the constant migration from the farm to the city, and by the lack of thrift, happiness, and harmony among the people of the country.

The old red schoolhouse, which served its purpose in a way, has had its day and is gradually disappearing. In a degenerate form, it is still found in the sparsely populated districts of the country.

As population increases and transportation facilities improve, consolidated schools are being established. These are demonstrating the advantage of co-operation, render possible more concentrated work by teacher and pupil, and tend to break down the barriers of prejudice engendered and fostered by isolation, and are proving forceful factors in creating social harmony and centers of community interest.

Courses of study for rural schools are now planned to meet the needs of country life. The bent of the training is toward, and not from, the farm. The old standards of instruction are being enriched by the study of good literature, nature study, elementary agriculture, and industrial work which have a bearing upon country life.

Industrial work is the last to receive consideration, due no doubt to prejudice, to the lack of revenue, and competent teachers. Before any subject should become a part of the work of the country schools, it should be subjected to the following tests: (1) Is it scientific? (2) Has it disciplinary value, both mental and physical? (3) Is there a need for it? (4) Will it contribute to the development of the pupil and the welfare of the community?

Industrial work in the country schools has already demonstrated that it measures up to the above tests and more. It will supply a desideratum long felt by making the work of the pupil more real, by furnishing a training more practical, and by rendering the instruction more dynamic and hence more permanent.

We are coming slowly to recognize the necessity of scientifically using the motor activities of the pupil and to realize that all instruction and training in which the pupil does not act out methodically and systematically impressions received, or thoughts engendered, are barren.

The country child on entering school is a bundle of curiosity and energy. His being is fresh and plastic. He is quick to receive impressions and ready to respond to the suggestions of his teacher. He craves satisfaction for his curiosity and is eager to expend the energy of which he has an overflowing supply.

The following are some of the purposes to be kept in view in providing industrial work for the pupils:

1. To rob work of its drudgery. To give industrial intelligence—"The power to see beyond the task which occupies the hand for the moment to the operations which have preceded and to those which will follow it, power to take in the whole process, knowledge of materials, ideas of cost, ideas of organization, business sense, and a conscience which recognizes obligations."
2. To give normal direction to innate activity.
3. To make clear to the pupils the industrial side of our work-a-day existence.
4. To afford a change from the daily routine and strenuous application to books, and rational means of using pent-up physical energy.
5. To contribute to physical development and thus promote health.
6. To establish definite standards and by work on concrete objects prevent deception on the part of the pupil.

7. To produce dexterity and deftness of execution.
8. To make other subjects of curriculum more real and definite.
9. To create true ideals and a power to realize them.
10. To engender a discontent with the disorder, lack of sanitation, discomforts, and inconveniences now so often found about the average country home.
11. To lay the foundation of the life-work.

The modern consolidated country school provides an artistic, well-planned building and ample grounds for play, shade trees, flowers, and a school garden. It provides comfortable transportation for pupils living too far away to walk to school. It should provide industrial work, suited to all the grades and rooms for teaching both boys and girls those subjects which pertain to either sex.

The work for the boys of the grammar grades should consist of the construction of simple objects found on the farm or in the home; the study of materials both vegetable, animal, and mineral with which the country boys have to deal and out of which they are to earn their living. They should be taught the use, care, and the essential principles of tools. They should be taught first to plan, second to select the material, and then to construct those things which are of use on the farm and in the home.

The interest in the object to be made will of necessity create a desire to be skillful in the use of tools. The boy who can, by the suggestion of his instructor, design and make a gate, tho a model, will not be satisfied when he comes to work on a farm with dilapidated bars. The boy who can design and construct a tower, windmill, and pump that will draw water from a pail, will not be content to use a rope and bucket when he comes to operate a farm.

The study of the design, adaptation, material, and construction of farm tools, implements, and machinery should be included in the course. The making of simple, useful, and artistic pieces of furniture for the home both by boys and girls will create good taste and tend to make the home comfortable, convenient, and æsthetic.

The boys should be taught the food values of the farm products both for man and animals, they should be taught the nature of soil and plant foods, the cultivation of the crop, the parasites and enemies of plants and animals, and in the school garden make practical tests. They should be taught all phases of dairying and poultry raising, the rotation of crops, the fertilization of the land and its cultivation. They should be taught in a concrete way the influence of sunshine and moisture on plant and animal life and soils. They should be taught the drainage of land; how and when to plow; how to gather their crops; how to grade and select the materials for sale; and last, but not least, how to calculate the yield and accurately estimate the profits.

The girls should be taught how to weave and sew; how to select material so as to get the maximum of value for the money and labor expended; how to design a dress and harmonize its decoration and colors; how to trim their hats to satisfy good taste and to come within their revenue. They should be taught the scientific values of foods, their preparation and serving. They should, by practical demonstrations, learn how to can and preserve their fruits, care for their dairy products, and how, from the abundance of the farm, to provide not only plenty but properly cooked and tastefully served food for the table. They should be taught the necessity of sanitation about the home, and led to look beyond the thing to the thought that animates its being.

The obstacles to the accomplishment of these desired ends is the lack of revenue, a proper appreciation on the part of the people, and, too, the meager supply of teachers capable and prepared to put them into successful execution.

I believe that it is feasible and will be an accomplished fact, first, in the consolidated schools and finally in the one-room school. The industrial work to be accomplished in the one-room school will of necessity be limited on account of the inability of the teacher, the want of time and space and the supply of equipment and material. Simple work, well designed for the individual pupils in their seats, will accomplish some good. The

school garden will be the only laboratory available and should be emphasized. The work to be done should be fully outlined by the school authorities charged with the administration and supervision of the school so as to have the work systematically pursued and some uniformity maintained.

In the brief time allotted me, it is impossible to go into details. What I have said is merely suggestive, and will, I hope, furnish the basis of presenting the subject fully before the conference. I am sure that there are those present who are ready to offer suggestions that will be helpful to the speedy introduction into the schools of this important work in which we, as superintendents, and the people of the nation are profoundly interested.

IV. TEACHERS FOR THE COUNTRY SCHOOL: KIND WANTED: HOW TO SECURE THEM

L. J. ALLEMAN, STATE INSTITUTE CONDUCTOR, BATON ROUGE, LA.

We have in the following vigorous language of Theodore Roosevelt, the whole problem of country life, and consequently the problem of the country school, in a nutshell:

> I warn my countrymen that the great recent progress in city life is not a full measure of our civilization; for our civilization rests at bottom on the wholesomeness, the attractiveness, and the prosperity of life in the country. The men and women on the farms stand for what is fundamentally best and most needed in our American life. Upon the development of country life rests ultimately our ability, by methods of farming requiring the highest intelligence, to continue to feed and clothe the hungry nations; to supply the city with fresh blood, clean bodies, and clear brains that can endure the terrific strain of modern life; we need the development of men in the open country, who will be in the future, as they have been in the past, the stay and strength of the nation in time of war, and its guiding and controlling spirit in time of peace.

This is the greatest question before the American people today, and the country-school teacher must be an important factor in its solution.

While the city school has to a certain extent kept pace with the progress of the city, the country school has been in a stage of "arrested development" during the past years and is just about to emerge from this condition.

According to the Country Life Commission:

> In every part of the United States there seems to be one mind, on the part of those capable of judging, on the necessity of redirecting the rural school. Everywhere there is a demand that education have a relation to living, that schools should express the daily life, and that in rural districts they should educate by means of agriculture and country-life subjects.

The kind of teacher needed for the country school is one who can do the sort of teaching indicated above. The charge that the country school has no point of contact with country life, is in the main true; but we cannot hope to articulate the country school with life, to arouse it from its present stage of arrested development, or to redirect the efforts of the rural school until we are in a position to place in our country schools a higher type of teacher; and we shall never have this higher type of teacher until we provide means of training her. But in order to do this, there are certain other things which must be brought to pass.

In any school a successful teacher must have three essential qualifications: (1) a wholesome personality; (2) a goodly supply of information and culture; (3) skill in the art of teaching; but the successful teacher in the country school in order to teach by means of agriculture and country-life subjects, must have all of the above qualifications and, in addition, specific training to teach these specific subjects.

While it must be admitted that little can be attempted in a one-room country school in industrial subjects and that it is dangerous to attempt such subjects in schools of this type, or any other, with teachers unprepared to teach the subjects, we must have, even in the one-room school all over the land, teachers who can teach effectively the common-

school branches and, at the same time and along with this teaching, arouse an interest and enthusiasm in the problems of home and farm life. It is this sort of intellectual process which is needed to relieve the manual labor of the country from its semblance of drudgery; but teaching of this kind is of the highest type and will need the highest type of training, and the services must be paid for accordingly.

How then are we to secure this type of teacher? There are many obstacles that impede the progress of the country school. Three of the most important are: (1) lack of public sentiment in favor of improving the country school; (2) the need of sufficient professional supervision; (3) the small school. Because these affect and modify the other numerous hindrances in a vital way, they should be removed first. It would be a waste of money and effort, for example, to provide a training school for counties where public sentiment permitted paying the teacher $25 per month for a term of four of five months.

So above and beyond the question of how to secure teachers for the country schools is the larger problem of how to create a demand for the kind of teacher wanted. Not only is there no demand for the kind of teacher and teaching described, but there is positive objection to the introduction of industrial subjects into the schools.

On this subject the Country Life Commission believes that "the most necessary thing now to be done for public education in terms of country life is to arouse all the people to the necessity of such education, to co-ordinate the forces that are beginning to operate, and to project the work beyond the school for youth into continuation schools for adults."

Few persons familiar with country life will question the wisdom of the conclusions quoted above. The problem, then, of securing the kind of teacher wanted for the country school is the problem of removing the obstacles that have hindered the employment of such teachers and that have impeded the development of the country school; any other attempt at solution would be superficial and futile.

Who should inspire and lead the campaign for higher ideals in country communities, for better supervision and more of it, and for consolidated schools? It is manifestly the duty of the state superintendent to lead and direct such a campaign. Like Horace Mann, he should go about in the state arousing the people to the necessity for the new education, for more supervision in country schools, and for consolidated rural schools. In states where provision for sufficient county supervision has not already been made, the first care of the state superintendent should be to influence legislation in favor of laws providing for the election of professional superintendents who should give their entire time to supervising the schools of the county. The question of efficient county supervision is very important in considering the improvement of the country school, and ought to be one of the first considerations; it is impossible to conceive of much improvement without such supervision.

The efforts of the state superintendent reinforced by those of county superintendent devoting his entire time to his schools would arouse public sentiment and would eventually lead to the establishment of one or two consolidated schools. These schools could immediately introduce agriculture, domestic science, or such other industrial subjects as would best meet the needs of the community; it could keep open a full session, employ a sufficient number of teachers for the year at a year's wages; and in one stroke the question of securing competent teachers, of relating the school to the life of the community and the question of supervision, would be nearly, if not quite, solved. Each consolidated school would serve as an object-lesson for the surrounding country; and in time the condition of the country school, even where consolidation is not practicable, would be materially improved.

Here is how the problem has worked out in Louisiana: in 1903 the first consolidated school was established; in 1907 there were 103. In 1908, a law was enacted requiring professional qualifications of the parish superintendent; and in 1909 there were 629 consolidated schools involving the elimination of 1,939 one-room schools. In addition eight agricultural high schools were established in accordance with the requirements of the state course of study; and the salary of teachers for the entire state increased, in five years, $15

per month. The state is now ready to take up a vigorous campaign for consolidation, and we expect great improvement in the rural schools within the next few years.

In my opinion, the best means of securing the teacher wanted for the rural schools are: (1) arouse public sentiment; (2) provide professional supervision; and (3) consolidate country schools. These are fundamental problems and until they are satisfactorily solved there cannot be hope for much progress in securing the kind of teacher wanted for the country school.

DISCUSSION

HENRY R. PATTENGILL, editor of *Moderator-Topics*, Lansing, Mich.—In Michigan we have been trying two plans for the improvement of country one-room schools and teachers. First, a system of traveling institutes. The county supervisor, together with an institute worker, travels during a week or two among the country districts of the county. They visit the country schools of each township, making short calls with a view to ascertaining the condition of the schoolhouse and grounds, the general spirit and work of the school, to sing with the pupils, question them upon their studies, give them an inspirational talk, usually stopping not longer than one-half hour in a school. The forenoon of each day is usually occupied in this way; sometimes the afternoon also. Frequently, however, in the fall of the year and winter when the country people have most leisure, general rallies or meetings are held in the afternoon and the evening in town halls, country churches, grange halls, or other convenient and commodious places. Here the teachers, pupils, and patrons of the adjacent districts assemble and sing together old folk and war songs, and an educational address is made by the institute instructor. In this address he seeks to give the proper idea of the value of an education; the necessity of good teachers. He urges the decoration of schoolhouses and their proper equipment, regularity and punctuality in attendance, the dignity of labor, and the inestimable value of the comfort and happiness of a country home. People are commended for equipping their schoolhouses with libraries and other necessary conveniences and for the neatness and tidiness with which they maintain their school. They are as freely criticized for any lack or negligence in these matters. The purpose of this is to create a better school sentiment among the people. The institutes are very popular but the work is rather difficult for the instructor. In some counties these institutes are combined with the farmers' institutes. Often the institute worker travels one hundred and fifty miles by carriage, visits fifteen or twenty rural schools, and makes twenty or twenty-five addresses during a single week.

The second means for improving the schools has especial reference to the teachers. Michigan has four most excellent state-normal schools, each of which has a large attendance and special courses given for the preparation of rural teachers. Yet few professionally trained teachers have found their way to the one-room rural school. Several years ago the plan was established of creating what is known as county normal-training schools. Forty-two of Michigan's counties now are blessed with this means for training teachers to work in the country schools. The county board of supervisors votes to appropriate one thousand dollars toward the maintenance of such school. The city in which the school is located and the state contribute another thousand dollars. Two teachers are selected to do the regular work of such school. These teachers are country-bred or else have had experience in country-school teaching and have gone on to normal schools or universities to complete their academic and professional training. The pupils for these schools are selected by the Board of Education, consisting of the county-school commissioner, the superintendent of the city schools, and the state superintendent of public instruction. Usually these pupils have completed a course in some high school before entering this training school. Such pupils spend a year under the direct supervision of these competent, sympathetic, and skillful teachers. Common branches are reviewed, history of education and the study of pedagogy constitute part of the course, while the musical director, drawing teacher, or other special teachers of the city school trains the pupils in their respective

branches. These normal pupils virtually live with these teachers during the day in the schoolroom. The inspiration of their teachers is manifest in the daily life of these pupils. The rooms of the city schools in the various grades are used as training schools for these embryo teachers. There under expert supervision they are taught to teach, and after a certain period of inspection they are given charge of a room and required to teach the classes in that grade. They are given expert assistance in the preparation of educational busy-work and in many of these schools manual arts and domestic science are a part of the curriculum. Nearly eight hundred such pupils are now in the training schools of the state and will be graduated next June to begin teaching in country schools next fall. Several thousand of these training-school teachers are at work in the country schools in Michigan. In fact, the superintendent of public instruction reports that 37 per cent. of our rural teachers now have professional instruction. One can tell immediately upon visiting the schools of these teachers that they have had professional training. Time and energy of pupils are conserved, these teachers know what to do first and what to do next and just how to do it. The school officers and people appreciate the work of county-normal teachers, seek them, and pay them better wages than other beginners or those who have not had long and successful experience. We thus seek to show to the people the difference between skilled teachers and unskilled teachers and the public does not seem slow to appreciate the difference.

Richard Park, county superintendent of schools, Sullivan, Ind.—We are all convinced of the advantages of consolidated schools, and many such schools are already in operation in Indiana, but the problem of the single-room district school is still with us, and will be for many years. The question now is how to improve the condition of the single-room rural schoolhouse. Experience leads me to express the opinion that the example of a single model district schoolhouse and school furnishes the best agency for improvement. Other districts quickly catch the spirit of improvement and recognize the advantages of the improved conditions. These improvements should be directed to correct the leading deficiencies of the rural school in the various particulars of lighting, heating, ventilation, decoration, and the supply of the necessary facilities for health and comfort in school work.

The playground should be ample, with good drainage, well supplied with trees and shrubs, and in other ways made attractive. The very best teachers should be placed in this model school, whose influence and success would incite the surrounding communities to secure better teachers, and be willing to pay better salaries.

The system of interschool visitation may be made helpful in order that the excellences of each may incite to the improvement of all.

George H. Black, president, Lewiston State Normal School, Lewiston, Idaho.—In addition to the instrumentalities already referred to in the discussion, Idaho has inaugurated a definite movement for rural high schools which schools provide for vocational education adapted to rural communities. This movement promises to increase the high-school population sevenfold within the next two or three years. Excellent results were attained thru the establishment of county institutes for school trustees, and thru the normal extension work which provides for sending out field instructors in domestic arts and rural sciences, whose duty it is to demonstrate and direct such work in rural districts.

W. S. Picken, principal of the Western State Normal School, Hays, Kans.—I am glad that the preceding speaker has dwelt upon the helpfulness of the model district school as an agency to uplift the rural schools. Our normal school has maintained such a model for the past three years. We have required a half-year's observation of an expert rural teacher's work by all of our beginning students—the young men and women who are going out to teach their first rural school. We have already noted a gain to the rural schools in

our vicinity. The beginners who have so observed the model school enter upon their terms with clearly defined ideals of a good one-teacher rural school.

Thus far we have carried on our work in a typical rectangular boxlike room. The state architect of Kansas has recently, however, given his best time and thought to the preparation of plans and specifications for the best possible reasonable priced one-teacher schoolhouse, and contracts for its erection are to be let this month.

I am convinced that one of the most helpful agencies possible for the uplift of rural schools would be a model district school maintained in every community. No better expenditure of public funds could be made than that needed to carry out such a plan.

ROUND TABLE OF SUPERINTENDENTS OF LARGER CITIES

ART AS A NECESSARY FACTOR IN INDUSTRIAL EDUCATION

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If industrial education is to be of the greatest service socially and commercially it must not be narrowed into lines which tend merely to immediate increase of commercial output of the ordinary quality, nor to a mechanically specialized skill, but must also provide the worker with a wide basis of knowledge and interests regarding industries. The study of art is an important factor in broadening the influence of industrial education and rendering it of more value to the worker and to the quality of his product. This paper purposes to discuss the relation of art to industrial education and to present some suggestions as to what phases of art instruction should enter into industrial education.

The present attitude of industry toward art is somewhat unfortunate. The idea that art is not closely related to what is practical is altogether too common. For example, an advertiser will sometimes say, "Business is of more importance to me than art; my advertisement must accomplish its purpose rather than be artistic." He does not realize that the arrangement of his subject-matter, the relation of the margins to the printing, and the skillful spacing of prominent words are elements of practical business value as well as of æsthetics. Another hindrance to attempts to make the study of art more general for industrial workers is the popular fallacy that appreciation of art is possible only for a few, and that showy, commonplace designs will always be desired and preferred by the general public.

Art and industry were once intimately associated. The artist was also a craftsman, and the craftsman was an artist. Michelangelo was not only a great painter and sculptor, but an architect also, and his painting and sculpture were integral parts of a structure. Because of its divorce from industry, art has suffered thru becoming detached and superficial, and industries have suffered thru becoming commonplace and ugly.

A recognition of the commercial value of the artistic quality of industrial products is of fundamental importance in discussing this matter. In the long run people will choose among equally useful things those which are most beautiful. The object that fulfills only its utilitarian purpose cannot compete ultimately with the object which in addition to being useful is also beautiful. This is a truth which a new civilization is slow to learn, but which becomes increasingly evident as civilization progresses. For this reason a knowledge of art is not only desirable from a cultural point of view but is also an industrial necessity.

It should not be a difficult matter to plan a course in art which shall be of directly practical value to industries. Unfortunately the principles of art have been formulated abstractly, and students often find it difficult to apply them in concrete instances. The following suggestions are offered as to subjects which may form a practical basis for a course in art as related to industries.

A mastery of plain explanatory drawing.—Ability to sketch rapidly furnishes a means

of description and experimentation and a stimulus to invention. The workman who can take his pencil and indicate possible forms of arrangement of the material with which he is working is able to experiment with various shapes and decide in advance upon the best final form of his object. The builder can sketch different angles for the gable of a roof to find out which will look best, or can try different proportions for pieces of furniture or other constructive projects. Experimentation by means of sketching gives reality and momentum to an idea and is one of the greatest stimuli to invention.

The power to draw also develops ability to read drawings made by others and is thus of value for those who work from plans. This ability is essential to the success of the workman. Freehand drawing should be well taught in elementary schools. Unfortunately much of the public-school drawing is thoughtless and slipshod. Children in the upper grades can explain theories of perspective and foreshortening, but when given a simple test, such as having an object placed before them and being asked to show with a rapid pencil sketch how it looks, they are often unable to do so. Instructors often refrain from teaching careful, correct drawing of objects for fear the results will become mechanical. They prefer to develop the æsthetic sense by allowing children to modify the actual appearance before them. This defeats the end in view for the best preparation for shaping things as they might be, is ability to represent them as they are. There is need of more careful training to draw truly and to represent facts. This is the best basis for later æsthetic appreciation, as well as being the most valuable industrial phase of drawing. Children in public schools should be taught to express their ideas rapidly and well by means of freehand drawing.

A course in art as part of industrial education should also give practice along the following lines:

A thorough study of the evolution of design in particular crafts. For example, in printing, furniture-making, pottery, manufacture of utensils, etc., students should know what has been produced in the past, the stages by which the products have arrived at their present form, and the examples which in the history of each craft have been prized as best. Thus the student is furnished with a historical background for judging industrial designs. He gains a realization of the great amount of thought and effort which has been expended upon even the common industrial products in order to bring them to their present forms. He should be taught to use the art museum as the literary student uses the library. Museums in turn should be provided as fully as possible with collections of articles or photographs which shall furnish to the various industries abundant reference material.

A practical working knowledge of the principles of design. A product is artistically excellent when it satisfies the æsthetic sense. This sense is an increasingly important factor in determining the choice of the purchasing public. If we ask on what these satisfactions are based we find that they depend upon the following elements:

a) Utility, which implies the perfect adaptation of the material to its purpose. This is the fundamental element in artistic satisfaction. No amount of decoration or ornamental treatment of expensive n aterial can compensate for lack of utility. Closely allied to this is the satisfaction in fine craftsmanship. Delight in a piece of work excellently made is an æsthetic satisfaction. In addition to skillful technique, fine craftsmanship implies the appropriate treatment of the material—such treatment as is suggested by the nature of the material itself.

b) Beauty. Any training in good design must consider the possibility of beauty in the essential parts of the object before any decoration is added. One element in delight in constructed objects lies in consistently related, well-chosen proportions, and in refinement of outline. The chief beauty in the appearance of a house, for example, consists in the proportions and in the spacing of walls, windows, and doors. No amount of ornament can compensate for mistakes in the disposition of these necessary elements. The relative proportions of the parts of a chair and refinement of outline in the necessary structural parts determine whether its design is excellent or not.

The student must learn to discriminate between good and bad proportions. He must also be able to utilize to the full the possibilities of beauty in the material employed before proceeding to decoration. The first element of beauty in the surface of wood is obtained by so treating it as to bring out the beauty of the grain itself. For this reason anything which violates the natural quality of the wood, as does pyrography, for example, is in questionable taste. The more important possibilities for beauty in constructed objects lie in this careful planning of outlines and proportions of necessary parts without regard to ornamentation. Taste degenerates when profuse and showy decoration hides poor construction and takes the place of the beauty possible from good proportions.

After the possibilities offered by the structural elements have been exhausted the next consideration in design is that of suitable decoration. Appropriate ornament always echoes or emphasizes the structure or relates to or symbolizes the purpose of the object. The ornamentation of a vase should follow and echo the curves of the surface, or divide the general form pleasingly, but should not present a competitive interest. For example, if an Indian's head is realistically painted upon a vase there is a clash of artistic interests. An Indian's head is a suitable subject for the painter, and a vase is a suitable subject for the designer, but the two have no relation and are therefore in bad taste, however excellently the head may be painted, unless it is so conventionalized as to fit the form. It does not enforce or make more important the idea of the vase, but adds an extraneous interest. The vase should rely chiefly upon the possibilities of its own form. The subject of decoration includes also the use of appropriate and harmonious color.

It is hard to overestimate the probable influence of a knowledge of art upon American industries. The coming of good design into our industries tends to retain and to distribute in this country the large sum now sent abroad for designs and designers. It is the function of an industrial nation to convert its raw material into its most perfect and valuable forms at the hands of its own workmen, thereby raising the quality of the industry and increasing the interest of the workman in his work. Art instruction at present is somewhat disorganized and seldom allied in the most effective way with industrial advancement. There is need of an industrial art school which shall take one American industry after another and explore it for artistic possibilities, which shall take the products and compare them with the best that have been produced in the past and with the finest examples from other countries, and which shall discuss them to see how they may be made more useful and more beautiful.

ROUND TABLE OF SUPERINTENDENTS OF SMALLER CITIES

I. THE PURPOSE AND CONTENT OF THE ELEMENTARY CURRICULUM

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The paper was given under three general heads:

1. An effective curriculum must meet a real demand.
2. The significance of training for efficiency.
3. The discovery of fundamental elements thru the sifting process and the necessity for repeated application of the principles involved.

A digest of parts 1 and 2 follows:

The present age is one of educational cataloging. Rules rather than reasons are emphasized. Chronological order and quantity of material should count for less than ability to know where to go for information when a demand is created for it or than a knowledge of how to study. The school trains toward dependency and away from self-reliance and leadership. There are, however, efficient schools springing up and regardless of the grade or the type of such school they recognize that education to be effective must meet a demand.

Improvement in the industrial and commercial world means energy properly directed and results closely scanned. In order to develop an education that shall make for efficiency, as keen a searchlight must be turned upon the school and its product as upon the machine and its product. As a human institution the present-day school is far and away the best the world has ever seen. But in many respects the school of the past was better adapted to its own time than is the school of today to the ideals of the times in which we live. To be efficient implies thoroness and thoroness means more adaptable and better-adjusted schools. We still cling to old courses and methods and systems; to conceptions and ideals that are outgrown, antiquated, moth-eaten; that are as foreign to the spirit of present-day civilization as would be the pony express, the scythe and cradle, the hand printing-press, or the tallow candle.

Turning now to the content of the curriculum of the elementary school we find:

1. So far as the present is concerned the school studies now in use, if properly developed and presented, contain all the elements necessary to produce desired results.

2. As new stores of knowledge open to us or as new developments demand a modified form of treatment, a new phase of experience must be brought into the school.

3. A large portion of the several studies now in use in the elementary school may be entirely eliminated from the program; certain portions of subjects may be delivered over to the high school for its consideration; and more time must be devoted in the first eight grades to the fundamentals and to drill upon those particular principles, facts, and forces needed by the rank and file, whatever sphere in society the individual may fill and whatever post or position he may occupy in the material world.

So far as present courses of study are concerned, the program must be readjusted. The schedule may be concentrated under the following general heads:

1. Physical Training.
2. Oral and Written Expression—Reading, Language, Literature.
3. History.
4. The Industrial Arts.
5. Geography and Nature Study.
6. Music.
7. Mathematics.

And while not included as a special branch of instruction, the laying of a sound moral foundation, the building of character, is to constitute the beginning and the end of every lesson in every subject; and unless such moral foundation result, the curriculum and the teaching alike are ineffective.

1. Physical training must include health studies and care of the body. It is not enough that 90 per cent. of the students sit on the bleachers and cheer while the 10 per cent. perform. Free play and exercise for all is necessary, and in so far as possible this exercise should be carried on in the open air, either on the field or in the outdoor gymnasium. We must emphasize the value of proper sitting, standing, walking, breathing; of pure air and water; of the necessity for properly lighted and well-ventilated rooms. Instruction should include an understanding of the value of simple, wholesome, well-cooked food; of proper dress; of temperance and regularity in all our daily habits. How to care for ourselves and for others in emergency or accident are matters of the utmost importance.

Cleanliness of mind and body, and strength of muscle and character go hand in hand. And everywhere and always the most effective teaching is done thru practice and example. The significance of good health and strong bodies must be recognized by the teacher, and for her teaching to be effective she must live the truths she seeks to inculcate.

2. Acceptable speech, legible writing, clear-cut written expression, never have been and never can be secured by giving attention to language study or English for one period a day only, and by ignoring it elsewhere thruout the school. In order that students may appreciate the significance of good English, they must be drilled in it constantly in all school studies, thus making its use automatic and part of the daily life. The best language teaching possible in the grades is that obtained thru the medium of history or arithmetic or other study. In other words every teacher *must* be a teacher of English as well as of morals.

Technical grammar, as such, has no place in the elementary school, first, because technical grammar cannot be studied understandingly by grade children, and second, because a knowledge of technical grammar, *per se*, will not make a master of English, or produce a mind capable of appreciating the literary masterpiece. There is nothing in the argument that since the tools of language must first be had, these are obtained thru a study of technical grammar. Attention must not be focused upon wrong or improper forms, but upon the perfect and the acceptable.

An appreciation of good literature must be inculcated. Do this, not thru the "dissection" method, or by rewriting or "writing down" a classic to fit the immature mind. Concentrate upon strong, clear-cut masterpieces; give attention to exact, well-defined oral speech. Not only is repetition necessary and drill effective, but common errors must be taken up in the various school recitations, whenever they are found to occur. Demand fewer written papers, many of which are consigned to the waste-basket without reading, and secure results thru more frequent oral drills. A return to the oral reading of times past may seem heretical doctrine to preach, but if present methods produce boys and girls who read thoughtfully and with expression, I have been unfortunate in my observations.

More attention should be given the study of originals in literature. A study of a simplified *Hiawatha*, for example, in the first or second grades; a consideration of a more complete version in the third or fourth, and the pupil, when he attains the age at which he should normally respond to the original and appreciate its real literary worth, is often too disgusted to ever again "look the poem in the face."

The pupils in the grades must absolutely master a strong, virile form of expression. If this be not accomplished thru the medium of class instruction, they will surely take up the slang of the street and the playground. Cure the slang habit by giving it no place in the schoolroom.

3. In history, push "wars and rumors of war" into the background. Elevate the study of industrial development, social ideals, commercial significance, peace movements, strong character studies, moral heroism. Man's place and work in a growing democracy rather than his prowess on the field of battle is the heart of real history study. The industrial arts, geography, and history so touch and overlap, that for elementary-school purposes they may be separated only for convenience' sake.

The history stories of discovery, exploration, settlement, and invention are good. Biographical studies of strong, lofty characters are excellent. Industrial history and commercial geography unite in a study of the perfection of the steam vessel, of the marvels of transportation by land and water, of the development of labor-saving machines and inventions such as the printing-press, and sewing-machine, the combined harvester, the fountain pen, the typewriter, the cookstove, the swinging and traveling crane, the steam hammer, the milling machine, the electric flat-iron, and the thousand and one appliances so essential to the arts of peace. To arouse a deep interest in the dirigible balloon and flying-machine is of greater importance than to lead to an understanding of the construction of a Monitor, a Dreadnaught, or a Maxim gun.

The achievements of a Benjamin Franklin, a Robert Fulton, a John Roebling, a Thomas Edison, a Roentgen, a Pasteur, a Beethoven, a Saint-Gaudens, a Shakespeare, a Lincoln, are of vastly greater significance in the development of character and of the culture of the mind, than the memorizing of the causes of the Revolution, the order and time of state admissions to the Union, the presidential succession, or the dates and results of the battles of the War of the Rebellion.

In history we must give large attention to the achievements of men who have accomplished results such as to make for improved social, industrial, and moral conditions, and to advance the standards and ideals of a people. History study must bring out clearly the relation of effect to cause, and develop thought rather than tax memory.

4. As indicated, the industrial arts in the grades find their chief place in making clear the study of history and geography and in furnishing a natural avenue of expression for

active minds and bodies. Beginning in the first and continuing thru the eighth school year, the meaning and growth of industries should have a prominent place. The study of primitive peoples, their manners, customs, mode of life, hunting and fishing exploits, travel, home-making—all thru the medium of the arts, may be understood and applied in such a way as to show how progress has been made.

The occupations and industries of our people today: the fundamental principles of home-building, of bridge construction and engineering, of boat and car manufacture—these are to be included in a study of the industrial arts. Instead of joints, and stitches, and abstract exercises, attention must be given to real processes and to actual things. The life of the mechanic, the farmer, the miner, the builder, the engineer, the artist, the writer, the housewife, the bread-winner, are opened up to the student in school. The boy has a *feeling* for industrial situations, for the meaning and dignity of work, for social adjustments, for the application of scientific principles in the arts, for an appreciation of the beautiful that is of untold value to him. The girl gains contact with the household arts, the preparation and serving of foods, comparative food values, adulterations, substitutes, compositions, the economics of marketing, the art of preserving, of cooking for special purposes such as for invalids, the care of the home, furnishing the house, planning and arrangements of rooms, home-decoration, sanitary conditions; and thru this contact and this elementary study, she will be made more efficient and better adapted to take her place in the world of life and action than could possibly be the case otherwise.

5. Thru contact with the most fundamental problems that have to do with our daily life, the study of geography and man's relation to the earth on which he lives may be made real and meaningful. Food, clothing, shelter, transportation—all are such important factors in man's welfare that their study is a ready introduction to the world of geography. Trace the raw food products thru the stages of soil preparation, planting, tending, harvesting, and the various processes of working over and manufacture, transportation, and the like. Consider from beginning to end the stages thru which our various articles of clothing pass from the raw material to the most intricate processes of manufacture. Study the growth of the abodes in which we now live thru the evolution of cliff, cave, hollow tree-trunk, cabin, to homes constructed of wood, or brick, of stone, of iron and steel, until the structures of today readily withstand the ravages of fire. View in detail the journey of these materials from the forest, the mine, the mill, the quarry, the kiln, as thru one process after another they find their way from distant lands to our own doors.

These things are not studied as ends in themselves so much as means to ends. In no way can a knowledge of physical conditions be so well acquired as thru these channels. By taking up the study of wheat from the standpoint of food, or cotton in its relation to clothing, there is a constant working back to climate, soil, location, and all that enters into making of value a knowledge of physical, industrial, and commercial geography.

Agriculture always has been and always will be the most important of human industries, and upon it depend manufacture, commerce, wealth, life, happiness, and progress. The study of man's relation to his environment is easily made as interesting as a fairy story. The work of rivers and glaciers, of winds and tides and ocean currents, the cause of deserts, the significance of lakes and seas, of plains and mountains, of valleys and forests—all may be appreciated thru rational interpretation.

Both boys and girls should visit, under careful guidance, the manufacturing plants, the art galleries, and the museums, in the cities or in nearby villages. They should understand and witness the building of good roads, appreciate the significance of forest-conservation and the husbandry of all our natural resources; visit the sources of water supply; study the work of the gas and electric plants and trace the evolution of illumination from the tallow dip to the arc light. They may take up the problem of street-cleaning and the disposing of sewage and garbage. They may interest themselves in the street car, the work of the civil officers, the mail service, the telephone and telegraph, the newspaper, the public institutions—asylums, homes for aged, unfortunate, or infirm—and the many facts

and forces that tie together geography, history, and good government, and make for perfected citizenship.

Thru these and similar channels the student is led to see and appreciate his place in society. He acquires a fund of real geographical knowledge pertaining to his own and to other countries, that can, in his short life in the grades, be had in no other way.

And of facts, locations, populations, climate, productions, industries, manners and customs, he secures a more intensive understanding, than should his entire time be devoted to the ordinary method of fact-gathering.

6. To say more than a word on the side of mathematics instruction is impossible. It is essential that in the elementary school the fundamentals be emphasized, and these are, first and foremost, the fundamental operations, commonly called addition, subtraction, multiplication, and division. The fundamental operations are used constantly in school and out, by men and women in all walks of life and of varied conditions and circumstances. To manipulate, easily and rapidly, problems involving these principles is an accomplishment few possess, and even the man schooled in the higher mathematics frequently finds himself sadly lacking in the practical arithmetic of which the fundamental operations are the foundation.

In addition to constant practice in the above, ease and accuracy in manipulating problems involving common and mixed fractions, percentage, interest, square and cubic measure must be given much attention. So-called business arithmetic or business forms need to receive special emphasis. The arithmetic of business rather than the arithmetic of school must be taught. Repeated and varied work in the fundamentals, returning again and again to the principles governing practical problems, is the work necessary to be done in the grades.

The teacher of arithmetic must use the textbook less and rely upon himself and his pupils to furnish much of the material to be studied. A most effective method is to request the pupils to bring from home such problems as the father and mother have constantly to solve. Then, too, the teacher should keep a note book in which are recorded the problems presenting themselves to the various men of his acquaintance. The builder and contractor must know the cost of excavating, of lumber, brick, hardware; must handle the problems of cubic measure in digging a basement, square measure in shingling a roof or plastering a room. The painter, the decorator, the plumber, the landscape gardener—each must possess an intensive knowledge of a real mathematics.

The real-estate dealer, the farmer, the bank clerk, the grocer, the tinsmith, the druggist, the sewer contractor, the mechanic, the street-car conductor—these and all others have a daily need for a knowledge of business arithmetic. In the early years the pupils should be taught to handle, easily and rapidly, concrete problems in the fundamental operations and simple fractions; in the upper grades the pupils must understand common business forms and papers, the elements of accounts and the general arithmetic of commerce. This means drill in the lines suggested with scant consideration in these grades of the bulk of the arithmetic as now taught.

The oral or mental arithmetic of an earlier day may be called into play. The catch problem, however, must be displayed by the problem of recognized everyday importance.

All of this points to the necessity of teaching, in the elementary school, the things that are usable. It means thoroness, with such a grasp of a few things as to make possible further intensive study later. It indicates that the elementary is a preparatory school, not merely for the school next above, but for real life. It points the necessity for training individual powers. It indicates the value of *formational* over simply *informational* work.

DISCUSSION

F. E. Downes, superintendent of schools, Harrisburg, Pa.—Every day's teaching in the elementary school should be inspired primarily by the child's needs, the needs of

society, and the needs of the times, and not by the desire to prepare pupils for entrance to the high school; and the course of study, fundamentally, should be subordinated to these ends in teaching. The public has a right to expect in every pupil who completes the elementary curriculum: (1) a reasonable habit of accuracy, (2) the habit of industry, or spirit of work, (3) considerable power of concentration, (4) a fair measure of discrimination or ability to distinguish the essential from the non-essential, (5) systematization in effort, and (6) a healthy, growing sense of honor. These are basal requisites, and the content of the ordinary school curriculum is simply the medium thru which they are to be developed. They represent fundamental purposes in our educational effort, and are the true intellectual and ethical ends to be secured. That there are other important ends—more patent, possibly, than these—will be admitted; but that there are purposes more fundamental will be conceded by no one.

Inasmuch as only a comparatively small proportion of the pupils of our public schools ever reach the high school, it follows that the elementary curriculum must concern itself with the future of the large majority, as well as with that of high-school embryos. Any course of study in the elementary school that has no aim other than high-school preparation is in need of a new viewpoint and an immediate readjustment, for it is not constructed in the interest of the masses who are paying the cost. The business of the elementary school should be to give to every pupil who completes it a working capital—a tangible, usable, educational asset—whether he is going to take it with him into life thru the avenue of the high school and, perhaps, the college and university, or more directly and immediately into the actual work-a-day world.

Our college friends tell us that a high-school course of study that will prepare best for college is the course of study that is best suited to the needs of everyday life. But we do not believe this, first, because it does not satisfy our reason, and, second, because it does not work out in practice. The high school, under its college tutelage, takes up the cry where the college drops it, and says to the elementary school, "Construct your courses of study to fit one-fifth or one-tenth of your pupils for the high school and you will then have builded for the life-interests of the remainder." And again our reason and experience compel us to question the soundness of the argument. "You may fool all of the people some of the time, and some of the people all of the time, but you cannot fool all of the people all of the time." The public has been long-suffering. It has waited patiently for proof. It has supinely submitted to a distorted educational sentiment until patience has ceased to be a virtue. It has witnessed the curtailment, by a full year, and in some instances two years, of the elementary curriculum. Whereas, formerly, a boy completed the grammar school and entered the stern battle of life, none too old, at the age of fifteen or sixteen, now he is forced to begin the work of life at the age of fourteen, in order to accommodate the small fraction of his schoolmates who must finish the high-school course at eighteen and that of the college at twenty-two. The public has consented in many places to the introduction of algebra, in the grammar school, for the benefit of this same favored few. And if we may judge by the large sales of some of our publishers of English classics specially prepared for the elementary schools, the trend, even, of literature teaching is toward high-school, and, eventually, college preparation.

Time prevents my carrying the argument farther. It is this condition more than any other, we believe, that accounts for this lack of adaptability, as suggested in the leading paper, and, incidentally, for the greatest storm of criticism that the public schools have ever known—this nurturing the few at the expense of the many. The schools have never done as good teaching, in their way, as they are doing today; but they have been aiming in the wrong direction. They have been supplying an education which eventually, after years of advanced training, would best equip a small minority for life, but have not been giving the most practical education to the vast majority.

The point we have been attempting to bring out is that, in our elementary schools, life-conditions and life-needs should be the prime consideration, rather than high-school

conditions and high-school needs. The latter should be regarded as incidental. The high school should make it its business to take up the work where the elementary school lays it down and proceed with it along the same worthy lines. Assuming due provision for a few subjects purely cultural and conventional, the content of the elementary curriculum must look more than ever to the immediate interests of the great mass of pupils who are to make early use of it. The public demands this as it has never demanded it heretofore, and it is now insistent that its demands be met; so that it becomes merely a question as to how best to comply with these demands. Most subjects, if not all, of this revised curriculum will have to stand the test as weighed in the balance of practicability, or utility. Every subject, whether it is to function as habit or judgment, must prove its immediate or early worth. Algebra, for example, which functions both as habit and as judgment, will be discarded in the grammar grades, because, without a high-school and college course, it possesses no utility. The substitution of an elementary course in bookkeeping or mensuration, or, as has been suggested, purely business arithmetic, would be infinitely more practical than algebra, and both the direct and indirect benefits much greater. In Harrisburg we have been teaching bookkeeping in the grades for many years and the public would not have it otherwise. What does this mean? It means that every pupil who completes the elementary course goes out into the world able to keep a single-entry account, either personal or for the corner grocery, with day-book, cash-book, and ledger. Mental arithmetic in many places, has become a lost art, as a distinct textbook study, and in our readjustment we would do well to restore this. Our boys and girls all need an appreciation of good literature; but they need first to know how to read intelligently and intelligibly, how to write a correct and legible letter, business or otherwise, and how to spell, more than they need to know *Hiawatha*, or *The Deserted Village*, or Dickens' *Christmas Carol*. Overemphasis of the study of literary classics may become dangerous, if by it too little time and attention are given to actual practice. The acquiring of correct practice largely thru imitation is a slow and unsatisfactory process. Public speaking is another lost art. Within the memory of the youngest of us, I think, a Friday afternoon was not complete without a spelling-bee or declamation exercises. Now these are exceptions. Our new course of study must include these. Our boys must be taught the use of their hands and the dignity of labor, and our girls must be given lessons in household economy.

We would not be misunderstood. We are not troubled with pessimism. We believe that our schools are better equipped, maintain better facilities, and supply better teaching than ever before. But we also agree with the leading paper in that in the natural process of evolution, for the most part for the better, we have made some vital mistakes. Culture and conventionality seem to have too far outweighed utility as standards. Now, manual training is in its ascendency; but while its high place in the education of today is a promising sign, even *it* may not possess the highest possibilities, unless care is taken to see that proper relations and balances are maintained. In the curriculum of the future we must retain the best of the old and the best of the new. We have lost too much of the best of the old and accepted too much that is bad of the new.

E. C. WARRINER, superintendent of schools, Saginaw, Mich.—Thru the kindness of President Chamberlain, I had the opportunity of reading this paper some days ago. With the author's main contention I find myself in agreement. Indeed, the educational world today is in practical agreement with him, judging from the rapidity with which the changes advocated in the paper are being made in our schools.

The purpose of the elementary-school curriculum is, according to the reader of the paper, adaptability to environment, efficiency to do things. To this statement I heartily subscribe, and I may remark, in passing, that this has always been the aim of the school. Education has always aimed to fit the student for his place in the world. The method of education and its content, however, have varied from epoch to epoch according to the ideals of the age. To Plato, reflection was the highest ideal and so Greek education led

to intellectual training; in Rome the best school was the armed camp which prepared for battle and conquest; Luther set up the ideal of righteousness and his thought has affected the school curriculum ever since; today we seem to be in a great maelstrom of materialism, whose eddies are drawing down into it even our courses of study. I believe thoroly in the adaptation of the individual to his place in life, I believe thoroly in the adaptation of the school to the individual pupil. I believe in vocational schools, trade schools, apprentice schools, continuation schools, etc., as is evidenced by the fact that we opened a trade school in our city the fifth of January of the present year.

While, therefore, I agree with the author's statement of the purpose of elementary education, I suggest the need of care, of caution, of forethought in changing our curriculum to make it agree with the content which he has suggested to us in his paper. There is just now a great danger of our thought and of our practice becoming materialistic. If proof of this were needed, the recent book of Mr. R. T. Crane, the wealthy manufacturer of Chicago, would furnish it. No more striking indication of the spirit of the times could be had than this book, in which the author dismisses with a word as entirely useless and worse than useless all schools and all education above the elementary grades. To Mr. Crane the almighty dollar, so called, is the only thing worth striving for, and I suggest that there is a danger of infusing this spirit into our schools, our teachers, and our courses of study if we insist upon the industrial core in every group of studies. In my judgment, the city of Chicago could find a more appropriate name for its west side technical high school than Crane. I suggest with all respect that there are more important things in this universe than dirigible balloons and flying-machines, not to say, however, that these are monitors, dreadnoughts, and Maxim guns. President Chamberlain has said, "The achievements of a Benjamin Franklin, a Robert Fulton, a John Roebling, a Thomas Edison, a Roentgen, a Pasteur, are of vastly greater significance in the development of character and of the culture of the mind than the memorizing of the causes of the Revolution, the order and time of state admissions to the Union, the presidential succession, or the dates and results of the battles of the War of the Rebellion." Yes, this is true, but this is an unfair comparison. To make good his point, the reader should have compared Franklin, Fulton, Roebling, and Edison with Washington, Perry, Grant, and Admiral Sampson. In such a comparison the heroes of the army and navy will not suffer by the side of heroes of peace. It will be a sad day for the idealism of the world when we try to forget in our teaching what the wars of progress have done for the world. I am not defending the arbitrament of the sword. I am only saying that, in the past, war has developed the world's greatest heroes and that we must not omit this from our courses of study. The spiritual, not the material, is the abiding verity of the universe. Our boys and girls should be so nurtured in their early years as to realize that the eternal things of existence are the unseen, not the seen. The industrial world, our natural resources, are the seen, they obtrude themselves upon us, especially in this age. In our desire to teach our boys and girls to do things with their hands, there is danger of forgetting that the best and truest and most enduring acts are wrought with the mind, not with the hand; that the unseen, not the seen, needs our deepest devotion. We shall soon reach, if we have not indeed already reached it, the point of overemphasis on the material in our schools.

The heart of our education, its foundation, is still to be found, I believe, in literature, in the wisdom of the ages, as it is recorded in books. The boys in the trade school should still be taught the world's great poems, stories, and legends. Success and happiness in life depend on a vocation, and it is the part of the public school to teach vocations, as a means of self-protection and self-preservation, but "with all thy getting, get understanding." A man's happiness in the world, and, therefore, his value as a citizen depend, ultimately, more upon how he spends his leisure hours than upon how he spends his working hours. It is, therefore, of fundamental importance that we teach the meaning of the progress of civilization in manners and morals. The paper we have listened to leaves the impression that the progress of industry and manufacture is the one essential in the study of history.

It is of fundamental importance that we give our students a love of the pure and true in literature as well as a knowledge of the development of labor-saving machinery. I shall not venture to a discussion of the author's detailed statements in regard to the content of the course of study. My general feeling I have already indicated. I believe sincerely in industrial education and the training of the hands, but I believe even more strongly in the education of the feelings and the training of the heart. It is because I think a warning is timely in our rush toward industrial education that I have spoken as I have today.

II. THE GRADING AND PROMOTION OF PUPILS

CHARLES S. HARTWELL, SECRETARY OF JOINT COMMITTEE ON SCHOOL ORGANIZATION NEW YORK CITY TEACHERS' ASSOCIATIONS, BROOKLYN, N.Y.

Five years ago this February, in one of my English classes were eighteen boys who had passed a grade of work but had been grouped with twelve others to whom that grade of work was entirely new. These eighteen were to repeat, simply because they had failed in two other subjects. Six of these pupils I had myself passed the week before, some of them with a good margin in percentages, and twelve had been passed by other teachers. It was the second semester of the first year and there was no excuse in lack of sections or time in the weekly program for not shunting these eighteen lads across the hall or to the next floor, to advance in the subject they had passed, except the idea of mass promotion, which prevailed at that time in the Boys' High School of Brooklyn, and in nearly every other high school in Greater New York.

Confronted by the problem of entertaining for five months 60 per cent. of the class, who knew they had passed—in one case with 19 per cent. beyond the passing mark—while at the same time I must stick to the syllabus for the other 40 per cent., to whom the work was new and essential, and realizing that this condition was due solely to wrong ideas of administration, my sense of injustice was aroused. I wrote a severe criticism of this system of promotion, which President Butler printed in the *Educational Review* for September, 1905.

Among the two hundred letters which this circulation brought me was one from President Eliot, who commended that portion of the article "Economy in Education" which treated of promotion by subject. In this letter were these remarkable words:

> We have reaped now in the public-school system all the benefits of system and uniformity, and it is high time to superinduce in the American schools the opposite benefits of flexibility and variety.

Another passage in President Eliot's letter was this:

> The three fundamental things for the improvement of education up to the age of eighteen are (1) the extension downward of departmental teaching; (2) the earlier introduction of many subjects now reserved for the high school; and (3) the promotion or advancement of the individual pupil by subjects and not by the year or half-year.

The greatest problem we have to solve in our great system [said Superintendent Maxwell to the principals of Manhattan and the Bronx] is to reach the individual and to help the slow pupil. I may say [he continued] that we are on the verge of solving this problem, and by a method which will revolutionize the public-school system of this country.

In referring to the above article in the *Educational Review* President Butler, the editor, wrote: "The agitation should be kept up both in New York and elsewhere until something is accomplished. I should think it perfectly possible and very desirable to adopt the point system in dealing with secondary-school pupils." On December 18, 1906, Associate Superintendent Edward L. Stevens, in charge of all high schools in Greater New York, wrote: "The scheme of promoting by points will undoubtedly go thru this month. We have agreed upon a minimum of 150 points." By a point is meant, in New York City, one recitation a week for a half year. Promotion by points carries with it, of course, promotion by subjects.

The most intense opposition to the change proposed came from the principals of the largest high schools, particularly those making a specialty of supplying young women to the training schools for teachers, but even in these conservative institutions the making of special or individual programs has since that time made some progress.

The results of two questionnaires, sent out in 1906, showed that the entire country was ripe for the change proposed by President Eliot and proved that the worst abuses of mass promotion are confined to the largest cities. Every state but Nevada contributed. To the question: "Do you make a student who has failed in some of the work of the grade take all the work of the grade again?" 206 superintendents, principals, and teachers said "Yes," but 357 said "No," or only 63 per cent.; 103 were willing to approve the New York City system, while 299 indorsed the changes agreed upon by the Board of Superintendents in January, 1906. But, in spite of a vigorous press agitation it took fifteen months to secure the adhesion of the high-school principals to this principle, and it was not until March 27, 1907, that the Board of Education of the city of New York adopted the rules under which promotion by subject or promotion by points is now enforced. Moreover, these rules are even now evaded in several of the high schools of Greater New York, and if a superintendent unannounced and unaccompanied should walk into some of the first- and second-year classrooms in high schools in New York City and ask the simple question, "How many pupils in this room are now taking over again some subject in which he or she has already passed," or if he should inspect the permanent record-cards of some pupils, he would find just such cases now, while the rule of the Board of Education that extra credit shall be given for superior work is practically ignored in certain high schools.

The formation of small annexes for first-year pupils or first-term pupils contributes materially to this unfortunate condition of reaction.

The enthusiasm of Van Evrie Kilpatrick of P.S. No. 52, Manhattan, led in 1908 to the forming of a Joint Committee on School Organization with special reference to the grading and promotion of pupils in the elementary schools. Seven principals and three heads of departments, five from the City Teachers' Association and five from the Brooklyn Teachers' Association, have for a year and a half been struggling with this problem. A preliminary statement may be found at pp. 14–17 of the *Brooklyn Teachers' Association Report* for 1908–9, and a complete report is to be issued within a few months.

At present writing 1,001 direct replies have been received to the twenty questions sent out by the joint committee. Hundreds of these have, besides the "Yes" or "No" answers, comments of various kinds. Scores of letters have been received from all parts of the country and material for a large volume would be easily available.

Of the 1,001 replies received, 7 came from Porto Rico, Hawaii, Manila, Canada; the other 994 came from forty-eight states and territories.

These replies are distributed as follows: 509 from the nine North Atlantic States, 45 from the nine South Atlantic States, 21 from the South Central Division with eight states, 296 from the North Central Division with twelve states, and 87 from the Western Division with ten states; the rest were indeterminate or blanks. Among the writers are 325 superintendents of schools, 513 principals, 20 teachers, 25 college presidents and professors, 66 normal-school presidents and teachers and supervisors of training schools, and 21 more, including members of boards of education. In general terms, then, the vote or tabulation is that of the experience and opinions of over 300 superintendents, 500 principals, and 100 teachers of teachers. Results based on so solid a foundation should be valuable as indicating the trend of the entire country.

Omitting for present purposes all doubtful replies, the direct "Yes" and "No" answers to he questions, "Have you tried?" and "Do you favor?" the various plans of promotion outlined in this questionnaire, as taken from 965 cards received from fifty-two states, dependencies, and Canada, are as follows:

	Reports	Tried	Not Tried	Favored	Not Favored	Percentage Who Favored
1. Cambridge Plan	965	78	380	235	122	66
2. Elizabeth Plan	965	270	222	349	98	78
3. Pueblo Plan	965	203	270	278	149	65
4. Batavia Plan	965	135	333	151	256	37
5. Departmental Teaching	965	471	170	467	146	76
6. Group Teaching	965	529	97	514	65	89
7. Pre-academic School	965	45	371	116	260	31
8. Extension Classes	965	57	406	235	119	66
9. Special Classes for over-age or foreign-born children	965	274	248	537	47	92
10. Ungraded Classes	965	275	260	553	42	93
11. Promotion by Points	965	78	363	192	179	52
12. Chicago Plan	965	155	305	240	155	61
13. North Denver Plan	965	162	267	220	161	58

To the question, "Are you trying any other plan than those named above?" only 55 responded in the affirmative, or about one in twenty. In other words, the plans proposed in the questionnaire cover substantially the principal methods of promotion adopted in this country.

"Do you believe it is feasible to place each child in that grade or subject in which he may work up to his fullest capacity?"—362 answer "Yes" and 165 say "No." This question is affirmed by 70 per cent. "Should pupils repeat work in which they have satisfactorily passed?"—31 say "Yes," but 642 say "No," many of them "Never." The vote against grade promotion, then, is fully 20 to 1.

It is simply impossible here and now to give names and opinions, however influential they may be. To select is to make invidious distinctions. I simply deal with the matter in the large. I note, however, that the country is progressing in opinion, in experience, and in determination toward more flexible methods. In 1906, to the question, "Do you favor the advancement by subject plan?" while 428 said "Yes," 113 said "No." Promotion by subject was directly opposed by 22 per cent. of the educators responding. Three years later, to practically the same question, and that aimed at the elementary instead of the secondary school, only 31 seem directly to oppose.

One excuse for the maintenance of grade promotion is the tremendous power it gives the teachers over the pupils. When they know that failure beyond the minimum of periods of work means repetition of the entire term, pupils will struggle harder to avoid this calamity. But what glory is there in passing nearly all members of a class at graduation when because of an inflexible system a large percentage of the pupils have spent from five to six years in completing a four-year course?

In the congested Brooklyn system, with its part-time classes, every term's work that is unnecessarily repeated in any high school is keeping another pupil in an annex of only one or two grades where he must pass all or repeat all. I have known a pupil sent back to an annex to take a grade the fourth time, because two subjects were not quite passed and there was no room in the main building.

Those who would like a more detailed statement of the various systems of grading and promotion, on which the experience and opinions of educators have been invited by the Joint Committee on School Organization which I represent, I would like to refer to *Education* (Boston) for February, 1910, pp. 381–83, where the subject is carefully treated by our chairman, Van Evrie Kilpatrick. Those who wish to learn the comments made by many distinguished men, either for or against any one of the plans discussed, I must refer to the forthcoming complete report of the committee. A monograph on each plan by an assigned member is in April to be placed in the hands of the chairman, who will

sum up the findings and issue the complete report within a few months. By autumn this may be in the hands of those who have contributed to its value by sharing their experiences and convictions.

Time permits me only a brief reference to Nos. 5, 7, and 11, on the recent questionnaire of our committee, covering respectively departmental teaching, the pre-academic school, and promotion by points.

Three years ago 324 favored departmental teaching in the seventh and eighth years, while 127 opposed it. Now, 467 favor it to 146 in opposition. The percentage of those who favor departmental teaching in these elementary grades has increased to over 76 per cent. The number who have tried it is 471, while 467 favor it, practically the same number, if not the same contributors. Of the 471 who have tried only 55 oppose departmental teaching. I am justified in saying, then, that departmental teaching in the seventh and eighth elementary years will not be dislodged and has come to stay.

The vote on the organization of the seventh and eighth years as a separate school deserves consideration. While only 45 state that they have tried it, 116 or two and a half times as many favor it. There is, however, formidable opposition in the 260 negative votes. In this connection may I call attention to the *Proceedings* of the National Education Association for 1909, p. 502, where a smaller postal-card canvass reveals a majority in favor of "organizing the ninth year with the seventh and eighth years under departmental teaching and promotion by subjects as a junior or lower high school, especially in large cities." The six-and-six plan has made great strides since Dr. E. W. Lyttle, of Albany, read his paper at Asbury Park in 1905, as an examination of the Morrison and Lyttle reports in the National Education Association *Proceedings* for 1907 and 1908 will reveal. In my own judgment the seventh and eighth years are now the real battle-ground for improvement in courses of study and in school organization, and vital connection with the secondary system will help the masses of children in the closing years of compulsory education.

"Promotion by points," says Mr. Kilpatrick, "is really the greatest thought in modern educational progress and is by its very nature the direct antithesis of any plan of organizing the educational course on a more or less fixed basis of years for each step." In Superintendent Seaver's report for 1901 we have an interesting statement of the Boston view. He says, "In the requirements for graduation, emphasis will be transferred from the element of *time* to the element of *acquisition*." "The goal set up for pupils now," he adds, "is the *maintenance of a general average for a given length of time:* then the goal will be the *mastery of particular studies*. There can be no question which goal is the better worth striving for, nor any doubt as to the superiority, moral and intellectual, of the education resulting from a striving for the worthier goal." Not only in the day high schools, but also in the evening high schools in Boston, promotions are made by points.

Did time permit I could quote reports and letters from Chicago, St. Louis, Cincinnati, Philadelphia, and so on, which would show that other systems besides New York's have suffered from the lock-step or penitentiary method of doing time in school. One Philadelphia principal wrote me: "I hope that we shall be able to secure the adoption of a rule which will not require repetition of 76 per cent. of a year's work because 24 has been below the standard." Does not such a letter show that it is a real evil which we are combating?

The result of the inquiry by this special committee cannot yet be foretold. Letters showing an interest that insures action continue to come from distant states. Principal Charles Perrine, chairman of the School Problems Committee of the Brooklyn Teachers' Association, who has read all the cards and letters, has, at my request, made the following observations:

1. Every principal should have a rule or a system under which it will be impossible for him not to know promptly of any pupil who is so far above the class that he needs to be put into the next higher grade or so far below the class that it is positively harmful to the class and to the pupil himself to remain in that grade.

2. Most cities need an improved system of record-cards by the use of which teachers and principals will take greater care in grading pupils according to their individual capacity and needs.

3. As one principal well puts it, "We are firing in the air as long as our classes contain fifty, sixty, or even more pupils." No class should exceed forty, and thirty would be desirable.

4. Every teacher should set aside at least a half-hour daily for helping individuals, a plan followed widely in Toronto and Milwaukee. One superintendent requires that two-fifths of the day be devoted to assisting individuals, particularly in directing them how to study.

Where classes must contain fifty or more, this Brooklyn principal suggests that three-fourths of the class, in lower grades, might profitably be dismissed a half-hour earlier at each session to permit the teacher to give attention to those who by reason of sickness or late entrance or less brilliancy cannot be promoted without individual help. The majority would still have all the time in school that Kansas City allows and all that many physicians approve.

5. No one administrative device is so widely recommended as the employment of an additional teacher whose chief business it is to afford special help in the essentials and in "*methods of study*" to pupils who have fallen behind because of sickness or slower mentality and to assist in rapid advance to a new grade without loss of essential topics especially bright or over-age children and those children from other schools who are hard to grade. Among the cities that recommend the individual teacher are Colorado Springs, Denver, Boulder, Wheeling, Brookline, Salem (Mass.), Minneapolis, Kalamazoo, Plainfield, and East Orange. The number of pupils whose promotion would be saved added to those who would complete the course in shorter time is an argument that would appeal to the taxpayer, especially if his boy was being saved.

6. Some courses of study while published as a minimum are in reality an impossible maximum for certain sections of the same city.

Some superintendents recommend that the course be reduced to bare essentials which should then be rigidly demanded, while an enriched curriculum is provided for the brighter pupils, as in Carthage, Mo., which has slow and fast sections in both high and grammar schools. Others would provide for a fuller course for all, but permit its completion in a term or less by brighter sections, by a proper modification of the Cambridge plan so widely used.

7. Several Philadelphia principals and superintendents regret the loss to the pupils in the present plan of semi-annual over the former plan of promotions three terms a year. From many other widely scattered sections comes a plea for 24 or even 32 grades in an eight-year course without change of teachers each time.

8. But most important of all we must extend into the elementary schools the practice happily becoming more prevalent in the high schools, of promoting by subjects. It is said that small high schools in New York State have been able to make a program that accomplishes this by having upper grammar grades taught departmentally with high-school pupils, and that many more pupils remain to get some high-school work or to graduate, because they nearly all earn promotion in some subject. Chief Inspector Wood says the program is possible because the school day is longer. If possible in smaller schools, it surely ought to be possible in larger schools. If special subjects interfere, those special subjects should be eliminated in special cases or deferred until after school.

When teachers and principals once realize that there is a way to master the difficulties that have led to retardation, it will be found, as always, that the teachers are ready to make any personal sacrifice to advance those to whom they have dedicated their lives.

In his response to our questionnaire, Secretary Irwin Shepard made a statement which deserves special thought. "The solution of many of these problems," writes Mr. Shepard, 'will be found in continuous sessions of schools, not meaning continuous attendance of

all, but continuous opportunities for attendance for those who can profitably attend continuously, with corresponding opportunities for vacations at any time when needed and only when needed. It is all wrong to shut up school buildings for three months every year and enforce a vacation for that time on all. Under continuous sessions, promotions should be quarterly rather that yearly or each half-year. A child can take a vacation, then, any three months when he needs it, or can attend continuously if best. This will break up the seven or eight grades into 28 to 32 units."

In his *Eleventh Annual Report* just issued, at pp. 106–9, Superintendent Maxwell gives interesting statistics regarding promotions in New York City and closes thus: "The most successful method, however, of accelerating promotions and the progress of pupils thru high schools would be the establishment of summer sessions."

Four terms of twelve or eleven weeks each, six periods to the day, separated by not more than a fortnight's interval, and three terms of the same length of a two-period evening school amounting to a fifth term in the year, would not only be conducive to economy in any large city, but afford the very flexibility in promotions for which I plead, provided:

1. That each period, day or evening, shall have at least one class for each term's work in each subject offered, wherever prepared pupils enroll in sufficient numbers. On program-making see "Liberating the Lower Education" in *School Review* for June, 1907, pp. 449–52.

2. That when the pupils of any section are too few to warrant the formation of a class, each shall be permitted to take any other subject available within his powers successfully to pursue.

3. That pupils who fail by a narrow margin in any subject shall be permitted to take both the term to be repeated and the next term's work in that subject, in case they drop for that purpose their most advanced subject and then clearly and steadily maintain the standard in both grades of work.

4. That pupils who secure a specified high standing in a subject shall be permitted to take an additional term of advanced work when feasible and suitable.

5. That, whenever they form an excuse for an inflexible school program, minor subjects, or those occupying but one or two periods a week, shall be grouped in the same unit as regards time-allowance and credit-assignment or deferred to another term or altogether eliminated.

6. That inexperienced teachers or those who, knowing only the graded system, have a narrow outlook shall not be assigned to the important task of classifying children, unless teachers of wider vision and sympathy are unavailable.

7. That the accommodation of certain teachers and even the equalization of sections shall be subordinated to the fundamental principle of placing successive terms' work of any subject at the same periods in the program, so that each pupil above the sixth year, and especially while obliged to attend school, may advance according to his or her own proficiency in each subject.

8. That administration shall scientifically assign to each school the proportionate number of teachers in each subject for all pupils above the sixth year which the size and number of rooms renders necessary to carry on the work of the course in that school.

9. That whenever inflexible conditions have placed the child at a disadvantage, his right to a chance to progress shall have the right of way over difficulties.

10. That in all cases where it is really immaterial which term of a subject or which subject is taken first the distressed child shall have the benefit of the additional opportunity for flexibility in order that he may either shorten the time or increase the power of his course.

The principle involved in above recommendations is that system must yield to the child as we find him or her. We are to use every contrivance to facilitate individual progress and not to block progress. Not only the geniuses are one-sided; many far from being

brilliant are one-sided. Flexibility gives each and all a chance to bring out the best in self and prepares for social service.

"The Keynote of the meeting of the Department of Superintendence at Indianapolis," according to the *Educational Review*, "is the difference in children. There are differences in mental alertness, in moral responsibility, mental attitudes, tastes, and tendencies, in physical condition, in environment, and in vocational aim." Promotion by points or promotion by subjects recognizes these differences and gives the child, the home, and society the benefit of all the possibilities involved.

DISCUSSION

F. E. Converse, superintendent of schools, Beloit, Wis.—Mr. Hartwell and other New York teachers are rendering us valuable service by their systematic study of this problem. It seems to me that we are practically all agreed on the importance of modifying our graded system so as to reach and help the individual. The problem is the *how*, or the *plan* for doing it in our smaller cities.

In the typical accredited small city high schools of the Middle West, the promotion of pupils by subjects has been a settled practice for years, if not from the first, and, as an accompaniment, departmental teaching has been at least approximated in those high schools. But we have been as slow as the slowest in trying any modifications of the common graded plan in our elementary schools.

I suppose the explanation is, that it is a comparatively simple matter to organize and run a high school on the departmental and promotion-by-subject plan. It is not so simple and easy to apply the plan in the elementary school, chiefly because economy has required that elementary teachers handle classes of forty-five and fifty pupils, instead of half that number as assigned to high-school teachers. If for each room and teacher in our elementary schools we could assign not more than twenty-five or thirty pupils, departmental teaching could be quite easily extended downward from the high school. But with constantly increasing population this seems out of the question except in the wealthiest communities.

The vote on Mr. Hartwell's questionnaire seems to indicate a growing sentiment in favor of organizing the seventh- and eighth-grade pupils with the present high-school grades, thus affording opportunity for departmental teaching and promotion by subject. But the cost of room in our costly high-school buildings will always interfere in most cities with carrying out this six-year plan.

It seems to me there is greater promise in the plan by which Grades 7, 8, and 9 are organized together as lower high schools, leaving only Grades 10, 11, and 12 in the high school proper with its more expensive laboratories and equipment. To adopt this three-and-three plan would provide school buildings nearer the homes of the pupils, and enable most small cities to build one or more moderate-priced buildings for the lower high school, with assembly room, gymnasium, shop, and kitchen, that would be in closer touch with the people than the larger six-year high school or even the present high school.

Again let us remember that the greatest problem is the evils of mass teaching. Departmental teaching and promotion by subjects will not alone remove nor much lessen these evils. We all know that most of the evils of mass teaching still remain in our high schools in spite of departmental work and promotion by subjects. There the individual is not yet reached nor the slow pupil helped as he needs reaching and helping. It is only because of the survival of the fittest that the evils of mass teaching are any less in the high schools than in the lower grades.

With reference to such special plans as the Cambridge, the Pueblo, the Batavia, the Elizabeth, the Chicago, the New York group plans, etc., the vote seems to me indecisive or uncertain. The strength of the common graded plan is its simplicity and economy. We have to remember that the machinery of the graded school must be retained and pre-

served. Moreover, the evils of mass teaching cannot be eliminated by merely substituting one machine for another however that machine may be modified from the old plan. It seems to me that they all would require closer supervision than the old plan to secure the results claimed. This is a point against them only because adequate, efficient supervision is now almost impossible in our smaller cities where the superintendent is either "the whole thing" or nothing, having little time for real supervision, and where principals of buildings teach most of the time. In other words, any approximately constant group plan, no matter how short the interval between groups, may be followed so as to be quite as inflexible as the old plan. Remember, it is *mass teaching* we are trying to supplement by some method of *reaching* and *helping individual pupils*. This aim will require the greatest possible flexibility of the grading and promotion plan.

Herein lies the need of close supervision of the best kind: because the teacher needs the perspective of the principal to help determine the needs of individual pupils. The regular teacher is too close to her grade to have a good perspective. Further, she is apt to be over-conscientious about having her pupils thoroly prepared to pass into the next grade room. She is apt to fear the criticism of the next grade teacher about the unpreparedness of her pupils. The best supervision for this purpose—of applying and carrying out any flexible plan of grading and promotion—could best be given by the principal of the building, whose whole time could profitably be given to the work of helping teachers to apply the course of study and to classify the pupils according to their needs. Of course this implies a school principal who is thoroly acquainted with the teaching-process, the course of study, and the pupils, yet far enough removed from each grade to have a good perspective of the whole school.

There are undeniably strong points in favor of every one of the plans that have been named, and it now seems to me that, given strong teachers and a capable principal devoting most of his time to supervision, every school of ten, twelve, or more rooms could improve results and better reach the individual pupils by employing a combination of those plans —departmental teaching for the seventh and eighth years, with promotion by subjects; special and ungraded classes, if rooms and teachers are available; the constant and shifting group plans in lower grades; and then supplement the whole by setting aside on every teacher's daily program a certain time each day for individual teaching.

Edwin J. Brown, superintendent of instruction, public schools, Dayton, Ohio.—I open my discussion with an acknowledgment of the valuable work done by Mr. Hartwell and his associates of the Brooklyn Teachers' Association. Their exhaustive investigation of the subject of "Grading and Promotion" has placed at the disposal of those interested, material so thoroly covering the entire matter that no superintendent can afford to be without it.

Mr. Hartwell has brought to our attention, briefly but clearly, all the different plans of promotion in present use. He has given us data, showing the number of supporters and users of each system. Here lies a real danger, the attaching of undue importance to the numbers given, in the data submitted.

Several years ago, the Batavia plan, now least favored of all suggested plans, would have had the largest number of supporters. It was but a milestone on the path of progress. So with other plans, which, in spite of the number of their supporters, must be considered mere guideposts on the road leading to the ideal system.

It is not any one plan, but a wise combination of the best features of all plans, that will do our children the most good. "Differences in children" has been the keynote in every discussion of this meeting. The theme alone, if nothing had been said, would have shown the progress of our profession from too great a uniformity to a rational consideration of the claims of the individual.

Children differ in many ways, in every way, perhaps, and someone must recognize and reconcile (for the good of each and for the good of all) these differences. That person

must be the teacher. In the attempt, therefore, to secure this best plan of grading and promotion, one element, the essential element, is the grade or class teacher. To reverently paraphrase, superintendents may plan, principals may work, but the teacher alone getteth the results of permanent benefit.

Many a well-planned system of work has failed in the schoolroom because the teachers, while loyally supporting the school authorities, have been led to see so little of the underlying principles, purposes, and details of the plans of the supervising force that they could not carry them out efficiently and successfully.

Superintendents may blaze the trail, but it is the teachers who must make the path, build the pike, lay the rails, string the trolley-wires and (since flying-machines have been mentioned here and Dayton is the home of that invention) chart the atmosphere in this forward movement, in the grading and promotion of pupils. At every turn it is the teacher who appears as the important factor in this work.

No superintendent who is not thoroughly in touch with his teachers, either personally or thru his supervising force, can hope to have any system of promotion other than a misfit, working excellently here with a sympathetic, capable teacher; failing miserably there, with a teacher out of touch with or mistaken in her understanding of his plans.

The only point I wish to make, then, in this brief discussion, is that the teacher will play the important part in any plan. She holds the "marking pencil" in grading. Her opinion must, after all, be an essential part of every promotion. No plan, flexible in every other part, can be a success if the teacher is expected to follow it mechanically without thoroly understanding and appreciating all of its details. The superintendent must have the support of his teachers, not in a merely mechanical manner, but with an intelligent interest, that will make real success possible and permanent.

The automatic telephone system is operated by the user turning a dial face to the proper number. Machinery makes the call. This device is advertised in such statements as "Our operators never lose their heads; they never lose their tempers. They have nerves of steel." It is the boast of our own Cash Register Company that its machines never make mistakes. Two perfect systems are here shown, but they are mechanical.

We must remember, however, that our teachers do not have nerves of steel, that they, like us, may make mistakes, not so much in teaching the subject or in recording or adding the grades as in doing the work the automatic telephone and the cash register do not need to do—in making comparisons with the child's past progress, in drawing conclusions as to what is best for him in the coming months and years.

Here is the superintendent's real work in promotions—to eliminate the mechanical and to put his teachers in clear-visioned, sympathetic touch with all the best plans and then to work out with these teachers plans which, taking into account the differences in children, will arouse in the teachers the determination to do the very best possible for each child, not only for the present, but for the future. This would mean not a city-wide plan, but often a different plan for each class.

Would it not be wise to acquaint each teacher with all phases of the promotion problem, then give her the class and say, "Here are your boys and girls. They are beginning the fifth grade. You are to do, not for all of them, but for each of them, that which he most needs. If you discover some one whom you cannot touch vitally and eternally for good, let us know; some other personality may. If you find a pupil capable (before the end of the year) of doing more than the fifth-grade work, give him the chance. Here is a minimum course. Enrich it along lines most helpful to each child. These are your children for a year. Do not worry, do not hurry, but work, and remember that your work is eternal. You are a teacher charged with a great responsibility, but blessed, as are few with great opportunities in the life of each of these, your children."

Children do differ, and in no other part of the school work do their differences play a more important part than in grading and promotion. Here are problems whose solutions

are worthy of the best thought and highest endeavor of teachers, of principals, and of superintendents.

H. B. Wilson, superintendent of schools, Decatur, Ill.—Evidently the adoption of a grading and promotion system which makes adequate provision for properly safeguarding the welfare of each child in the matter of his assignment for work is an administrative problem. Most of the evils in our public schools may be shifted in part to the shoulders of the community, the teachers, or the board of education; but any shortage in the grading and promotion plan in a system must surely be mainly chargeable to the superintendent of schools. It is probable also that no other one thing which he does, after selecting his corps of teachers, is more far-reaching in its consequences than is the matter of instituting a wise system of grading and promoting pupils.

The major portion of the paper opening this discussion is devoted to showing the advisability of promoting by *points or subjects rather than by classes.* With this position I am in hearty accord. I believe also that the credit system of promotion should be administered more discriminatingly, if it is to stimulate the individual child as it should. To this end less credit than the hours of work actually carried should be granted for mere, bare passing grades in all cases in which the student is capable of doing a higher grade of work, and more credit than the hours of work actually carried should be granted, if it is of a superior, high character. Indeed, I was surprised to see that Mr. Hartwell found conditions existing in the public schools of the nation which seemed to require the discussion and support of this plan. It is easily possible in any grade or high school organized departmentally, and it is the only rational system to be used under such an organization. I regret that his data do not show the attitude and practice in reference to this system by states. It has been generally in use so long thruout the states here in the Middle West, that most of us had forgotten it is possible to do it otherwise. We are glad to aid New York to secure the adoption and use of the system, however, by giving it our public endorsement here.

The fundamental theme of the paper, as of all the addresses of this session of the Department, is that the system of grading and promotion instituted must yield to the interests of each child which it concerns. We cannot give this principle too strong sanction in the meeting of this round table. In the few minutes at my disposal, I desire to state briefly some provisions every system should make for the progressive and satisfactory advancement of its children thru the grades and high school.

1. In the first place provision should be made for this advancement to take place upon the basis of a flexible, adaptable course of study. This topic is not directly a part of our discussion but it is related to it in a very basic way, so I touch it merely to say that every course of study should provide: (1) a required minimum of work to be done by each child in each grade before he passes from the grade; (2) a more extensive amount of work which all pupils of average ability should be expected to complete satisfactorily; and (3) additional work which the "more gifted" pupils, borrowing superintendent Van Sickle's phrase, should be inspired to do, that their opportunities may be rich and profitable in proportion to their abilities.

2. The more flexible the machinery of the plan of advancement the more desirable it is so long as it is practicable and workable. Various plans have been devised whereby those gifted children may complete the required work in a minimum of time, the average children in a little longer period of time, and the slower children, who are not so defective or arrested as to constitute custodial institutional cases, in a little longer period of time. All of these plans, regardless of their details, seek to make it easy for a child to transfer from any class moving at a given rate of progress to a class moving at any other rate, whenever the evidence may indicate that such a transfer would probably be to the interest of the child concerned. Every school system may and should embody in its grading and promotion scheme some flexible plan. It may be the Cambridge plan or some modifica-

tion of it. The exact details matter little, provided the periods when transfers may be made smoothly and without loss are not too far apart.

This flexibility should also be supplemented by arranging plans whereby small shortages in the work of a grade may be made up by a child after he has gone into a more advanced grade. These shortages are unavoidable often, and yet the child's age and general ability clearly indicate he should go to a higher grade. He will be greatly stimulated by being in a grade with pupils of his age and social interests and attitudes. In all these cases the child should be advanced, if at all possible. The programs should then be planned so he may return to the lower grade to remove his shortages. We now have a number of cases in our schools which are being so handled. A child in the fourth grade, for example, is returning to the second grade for his number work, while another in the third grade is taking the phonic exercises and drills in both the 1A and 2B grades.

Of course, many of these cases are handled by the individual help which the regular teacher can give. Others are adequately met in crowded rooms by the assistant teachers. Still others are met by the private instruction and help of the unassigned teacher. In my own schools the last half-hour of the day is regularly used in aiding children needing special help. All children whose attendance, conduct, and work for the day have been exemplary are excused at 3:30. All others, and standing special cases, remain for such help and conferences as their individual cases require. The method of treating these cases is a secondary matter, so long as it is simple, hygienic, economical, and effective. It is little short of criminal, however, not to find a remedy for all cases where advancement is reasonably possible.

In this connection we must not forget the importance of seeking to institute plans whereby success in his term's work is insured to every single child. Nothing succeeds like success. Nothing so certainly insures future success as a series of successes in one's history. Let us make failure impossible to all types of children to the degree that it lies within our power to do so.

Some months ago, a large, overgrown sixth-grade boy, who was just entering early adolescence, was discovered in the room of a teacher who believed in the large results which follow from doing difficult and distasteful things—a doctrine born of the old-time view of formal discipline. This manly fellow was a leader except in history. His uncommon ability seemed to fly out of the window when the preparation or recitation of the history lesson was undertaken. Accordingly, his teacher ceased to call upon him to recite in his other classes. She felt there was little need for him to recite in his other studies. He always had his lessons in these subjects. So, she proceeded to call upon him without fail in history and he was seldom known not to fail. The boy's confident, courageous manner changed to one of doubt and hesitancy, and he began to do poorly in whatever he did.

The teacher was urged to accept the doctrine that nothing stimulates to other successes quite so effectively as a series of successes. She reluctantly tried the theory and began calling upon him to recite in his other subjects and in the things he could do in history. Soon the light returned to his eyes. His face changed from gloom to cheerfulness. He began to stand erect and hold up his head again. His old-time pleasant, familiar way with his associates returned, and John became his former courageous, successful self. The opportunity for victories had established him again in the good favor of his classmates. He felt his teacher believed in him, and he began to "bet upon himself" again. No other factor contributed to the saving of John from a term of failure and discouragement quite so much as his successes.

3. More sanity than often prevails should be displayed in invoicing the child's claims to promotion. It is inexcusable narrow-mindedness and grievous shortsightedness to determine a child's promotion or failure *solely* upon the basis of his ability in the three R's. Carelessness with reference to his ability in these studies would be fatal, of course. Nobody wants the child strong and expert in these subjects more than I do; but expert, automatic ability in these subjects does not need to be secured all at once.

A large, overgrown child should be advanced as rapidly from grade to grade, until he reaches the grade where children of his age and social interests are, as the development of his general ability will permit. He should not be held to a strict, careful mastery of all the detailed drill phases of a subject, as should a younger child who is in a grade where children of his age and attitudes normally are. Nor is there any absolute standard of proficiency by which to measure advancement in these subjects. Before the children leave these subjects entirely, a certain minimum efficiency must be required; but what should be considered an ideal mastery by a slow, incapable child is only three-fourths mastery by an average child and only half-mastery by a gifted child. Let us more and more learn to cut our cloth to suit the wearer and to adjust our detailed requirements to the genuine interests of our children in the long run.

Let us note and measure ability in subject-matter, but let us also learn the conditions which rendered each child who is threatened with failure in his term's work irregular in attendance, slothful in his work, and unambitious in his attainments. Was he in ill health? Was he hampered by physical defects? Did home conditions tax his energies, cause him to fail to get needed rest at night, deprive him of sufficient food and detain him from school? Was he growing rapidly, so that his energy and vitality were all consumed here? Did his growth render him awkward and clumsy in both body and mind? Was he with pupils so much younger and so much different socially that his embarrassment and his failure to adjust to their atmosphere and spirit handicapped him? Was the room so overcrowded that he didn't receive needed individual aid? Was he in a part-time school? Was he with a teacher who was not compatible? Was he put at a disadvantage by changing schools or teachers two or three times, owing to readjustments made in the schools or to his parents moving about in the city? Are you absolutely certain the requirements of the course of study and the standard for promotion are ideally correct? Is his threatened failure due to your general, deliberate estimate of his ability, or does it result from his standing in percentages from a series of examinations imposed from above? All of these questions and more should be honestly asked and answered by every teacher before she labels the term's work of any child *failure*. After all the conditions have been considered, every child's teacher should be honest enough with him and with herself and should be sufficiently devoted to his future welfare to fail him, if this unquestionably seems to promise most for him. Courage is quite as important here as is sympathetic appreciation in promoting a child.

If we shall succeed in adopting for our guiding phrase "Not the system but the child," happier children and teachers and better equipped future citizens will be the certain result. Let us, in pursuit of this end, be willing to cut our red tape into blue ribbons at any time, in our efforts to educate America's children.

If a general illustration may be pardoned in this serious gathering where we are seeking to consider technical matters upon the basis of definite data rather than upon that of mere opinion, I wish in closing to cite a result secured to a child and to us, by the wisdom of a teacher who taught years ago in Hancock County in this good state of Indiana. A system of rules and standards had been adopted by the directors of this school for the guidance of the teacher. While he was faithful to his trust and loyal to his employing board, as all true teachers are, he found ways to modify his system when special cases demanded it.

In the case which I have in mind, three regulations were broken in the interest of the child. The first decreed that any child failing in more than five sums in arithmetic in any week should be flogged. By the close of a certain recitation, this child had failed in the fatal five sums. Knowing what awaited him he went to his seat in a dazed condition. While dreaming over his lot he fell to drawing, another thing prohibited by the directors of the school. His drawing portrayed a large, strong man wielding a huge club over a stripling of a boy. Just as he finished the drawing he glanced up and was surprised to find the master standing over him. He hastened to erase the drawing but the master caught his arm, saying, "Don't erase it Jim, it's good." He now realized he had broken two

regulations of the school. After school he awaited the orders of the master with anxiety. After making certain all had gone and that no one was in sight, the master called him to his desk, and, instead of proceeding to thrash him, he took him upon his lap. He then drew from his desk a copy of Ivanhoe and read to his pupil until he saw he was intensely interested, when he asked him if he should like to take the book home with him and read it thru. The child thought he should, and so he took the book to his home and hid it in the hayloft, where he secretly read it thru, altho the directors had ordered that no novels should be read in school. This seemed to reach the child and awaken his genius, and thus was James Whitcomb Riley saved to the world, and thus began the growth of the talent which produced his inimitable poetry.

THE NATIONAL COUNCIL OF EDUCATION

CONSTITUTION

PREAMBLE

The National Council of Education shall have for its object the consideration and discussion of educational questions of general interest and public importance, and the presentation, thru printed reports, of the substance of the discussions and the conclusions formulated. It shall be its object to reach and disseminate correct thinking on educational questions; and, for this purpose, it shall be the aim of the Council, in conducting its discussions, to define and state with accuracy the different views and theories on the subject under consideration, and, secondly, to discover and represent fairly the grounds and reasons for each theory or view, so far as to show, as completely as possible, the genesis of opinion on the subject. It shall be the duty of the Council, in pursuance of this object, to encourage from all its members the most careful statement of differences in opinion, together with the completest statement of grounds for the same. It shall further require the careful preservation and presentation of the individual differences of opinion, whenever grounds have been furnished for the same by members of the Council. It shall invite the freest discussion and embody the new suggestions developed by such discussions. Any member making such suggestion or objection may put in writing his view, and the grounds therefor, and furnish the same to the secretary for the records of the Council. It shall prepare, thru its president, an annual report to the National Education Association, setting forth the questions considered by the Council during the previous year, and placing before the Association, in succinct form, the work accomplished. It shall embody in this report a survey of those educational topics which seem to call for any action on the part of the Association. The Council shall appoint, out of its own number, committees representing the several departments of education, and thereby facilitate the exchange of opinion among its members on such special topics as demanded the attention of the profession or of the public.

ARTICLE I—MEMBERSHIP

1. The National Council of Education shall consist of sixty members, selected from the membership of the National Education Association. Any member of the Association identified with educational work is eligible to membership in the Council, and, after the first election, such membership shall continue for six years, except as hereinafter provided.

2. In the year 1885 the Board of Directors shall elect eight members—four members for six years, two for four years, and two for two years, and the Council shall elect eight members—five members for six years, two for four years, and one for two years; and annually thereafter the Board of Directors shall elect five members and the Council five members, each member, with the exception hereinafter provided for (sec. 5), to serve six years, or until his successor is elected.

3. The annual election of members of the Council shall be held in connection with the annual meetings of the Association. If the Board of Directors shall fail, for any reason, fill its quota of members annually, the vacancy or vacancies shall be filled by the Council.

4. The term of service of the several members of the Council chosen at the first election shall be arranged by the Executive Committee of the Council.

5. The absence of a member from two consecutive annual meetings of the Council shall be considered equivalent to resignation of membership, and the Council shall fill vacancies caused by absence from the Council as herein defined, as well as vacancies caused by death or resignation, for the unexpired term. All persons who have belonged to the Council shall, on the expiration of their membership, become honorary members, with the privilege of attending its regular sessions and participating in its discussions. No state shall be represented in the Council by more than eight members.

ARTICLE II—QUALIFICATION FOR MEMBERSHIP

All members of the Council shall be either life or active members of the National Education Association.

ARTICLE III—MEETINGS

There shall be a regular annual meeting of the Council held at the same place as the meeting of the National Education Association, and at least two days previous to this meeting. There may be special meetings of the Council, subject to the call of the Executive Committee, but the attendance at these meetings shall be entirely voluntary. A majority of the Council shall constitute a quorum for the transaction of business at any meeting, whether regular or called; but any less number, exceeding eight members, may constitute a quorum for the transaction of business at the regular annual meeting, as defined in this article.

ARTICLE IV—THE WORK OF THE COUNCIL

The Council shall, from time to time, undertake to initiate, conduct, and guide the thoro investigation of important educational questions originating in the Council; also to conduct like investigations originating in the National Education Association, or any of its departments, and requiring the expenditure of funds.

ARTICLE V—THE APPOINTMENT OF SPECIAL COMMITTEES AND EXPERTS

In the appointment of special committees, and in the selection of writers and speakers, it shall be the privilege of the Council to appoint such experts, whether members of the Council or not, as are deemed best qualified to conduct investigations.

ARTICLE VI—OFFICERS

At the annual election of officers in 1904 the president of the Council shall be elected for a term of three years, the vice-president for a term of two years, and the secretary for a term of one year; and thereafter annually the vacancy caused by the outgoing officer shall be filled by the election of one person for a term of three years.

It shall be the duty of the president of the Council to prepare, with the assistance and approval of the Executive Committee, such a program for the annual meeting as shall realize as fully as practicable the purposes for which the Council was organized and exists.

ARTICLE VII—STANDING COMMITTEES

1. There shall be four standing committees: an Executive Committee, a Committee on Membership, a Committee on Educational Progress, and a Committee on Investigations and Appropriations.

2. The Executive Committee shall be composed of the president of the Council and of three other members, whose terms of office shall be so arranged that one new member may be chosen each year, beginning with the year 1899.

3. It shall be the duty of the Executive Committee to provide an annual program by selecting, whenever feasible, subjects for investigation, and appointing committees to conduct such investigations. It shall be the duty of the Executive Committee to carry out the provisions contained in this constitution referring to volunteer and invited papers. It shall be the duty of the Executive Committee to provide a place on the program for

the report of any investigation which may be ordered by the National Education Association or its departments.

4. The Committee on Membership shall be composed of the president of the Council and six other members, whose terms of office shall be so arranged that two vacancies may be filled every year, beginning with 1899.

5. There shall be appointed annually a committee of one to submit at the next meeting a report on "Educational Progress during the Past Year," in which a survey of the important movements and events in education during the preceding year is given. This committee need not be selected from the members of the Council.

6. The Committee on Investigations and Appropriations shall be composed of nine members, whose terms of office shall be so arranged that three vacancies may be filled each year, beginning with 1903. No proposal to appoint a committee to undertake an educational investigation of any kind, and no proposal to ask the Board of Directors of the Association for an appropriation for any purpose, shall be acted upon until such proposal has been referred to this Committee on Investigations and Appropriations for report.

ARTICLE VIII—THE DUTIES OF THE COUNCIL

1. It shall be the duty of the Council to further the objects of the National Education Association, and to use its best efforts to promote the cause of education in general.

2. The meetings of the Council shall be, for the most part, of a "round table" character.

ARTICLE IX—AMENDMENTS

This constitution may be altered or amended at a regular meeting of the Council, by a two-thirds vote of the members present, and any provisions may be waived at any regular meeting by unanimous consent.

By-laws not in violation of the constitution may be adopted by a two-thirds vote of the Council.

OFFICERS, STANDING COMMITTEES, MEMBERS

OFFICERS FOR 1910–11

CHARLES H. KEYES	New York, N.Y.	*President*	Term expires in 1913
WILLIAM M. DAVIDSON	Omaha, Nebr.	*Vice-President*	Term expires in 1912
JOHN W. CARR	Bayonne, N.J.	*Secretary*	Term expires in 1911

EXECUTIVE COMMITTEE

THE PRESIDENT, *ex officio, chairman*

JAMES M. GREENWOOD	Kansas City, Mo.	Term expires in 1911
ELMER ELLSWORTH BROWN	Washington, D.C.	Term expires in 1912
JOSEPH SWAIN	Swarthmore, Pa.	Term expires in 1913

COMMITTEE ON MEMBERSHIP

THE PRESIDENT, *ex officio*

JAMES Y. JOYNER	Raleigh, N.C.	Term expires in 1911
JAMES M. GREENWOOD, *chairman*	Kansas City, Mo.	Term expires in 1911
AUGUSTUS S. DOWNING	Albany, N.Y.	Term expires in 1912
CARROLL G. PEARSE	Milwaukee, Wis.	Term expires in 1912
ELMER ELLSWORTH BROWN	Washington, D.C.	Term expires in 1913
ROBERT J. ALEY	Orono, Me.	Term expires in 1913

COMMITTEE ON INVESTIGATIONS AND APPROPRIATIONS

NICHOLAS MURRAY BUTLER	New York, N.Y.	Term expires in 1911
WILLIAM H. MAXWELL	New York, N.Y.	Term expires in 1911
EDWARD T. FAIRCHILD	Topeka, Kans.	Term expires in 1911
JAMES M. GREENWOOD, *chairman*	Kansas City, Mo.	Term expires in 1912

Frank A. Fitzpatrick	Boston, Mass.	Term expires in 1912
Elmer Ellsworth Brown	Washington, D.C.	Term expires in 1912
Augustus S. Downing	Albany, N.Y.	Term expires in 1913
Lorenzo D. Harvey	Menomonie, Wis.	Term expires in 1913
John H. Phillips	Birmingham, Ala.	Term expires in 1913

MEMBERS

Elected by the Association — *Elected by the Council*

TERMS EXPIRE IN 1911

Elected by the Association	Elected by the Council
William H. Bartholomew, Louisville, Ky.	W. J. Kerr, Corvallis, Ore.
Frank A. Fitzpatrick, Boston, Mass.	Joseph Swain, Swarthmore, Pa.
*I. C. McNeill, Memphis, Tenn.	Nathan C. Schaeffer, Harrisburg, Pa.
E. Oram Lyte, Millersville, Pa.	Ben Blewett, St. Louis, Mo.
James M. Greenwood, Kansas City, Mo.	Z. X. Snyder, Greeley, Colo.
Estelle Reel, Washington, D.C.	John W. Abercrombie, University, Ala.
A. J. Matthews, Tempe, Ariz.	*B. W. Torreyson, Little Rock, Ark.
Julius I. Foust, Greensboro, N.C.	G. W. A. Luckey, Lincoln, Nebr.
W. T. Carrington, Springfield, Mo.	John A. Wood, South Bend, Ind.
William P. Burris, Cincinnati, Ohio	D. B. Parkinson, Carbondale, Ill.

TERMS EXPIRE IN 1912

Thomas A. Mott, Richmond, Ind.	Ella Flagg Young, Chicago, Ill.
John H. Phillips, Birmingham, Ala.	Edwin S. Monroe, Muskogee, Okla.
Francis G. Blair, Springfield, Ill.	W. H. Elson, Cleveland, Ohio
James H. Baker, Boulder, Colo.	John W. Carr, Bayonne, N.J.
*Charles C. Van Liew, Chico, Cal.	*Albert Salisbury, Whitewater, Wis.
J. A. Smith, Deland, Fla.	Grace C. Strachan, Brooklyn, N.Y.
*James A. MacLean, Moscow, Idaho	Adelaide S. Baylor, Wabash, Ind.
*Edward T. Fairchild, Topeka, Kans.	Carleton B. Gibson, Columbus, Ga.
*Alfred Bayliss, Macomb, Ill.	C. G. Schulz, St. Paul, Minn.
Walter E. Ranger, Providence, R.I.	Oscar T. Corson, Columbus, Ohio

TERMS EXPIRE IN 1913

James M. Green, Trenton, N.J.	William E. Hatch, New Bedford, Mass.
Augustus S. Downing, Albany, N.Y.	Bettie A. Dutton, Cleveland, Ohio
George B. Cook, Little Rock, Ark.	Charles H. Keyes, Hartford, Conn.
Stratton D. Brooks, Boston, Mass.	Andrew S. Draper, Albany, N.Y.
Edgar H. Mark, Louisville, Ky.	*Clifford W. Barnes, Lake Forest, Ill.
Thomas M. Balliet, New York, N.Y.	Frank E. Parlin, Cambridge, Mass.
Henry B. Brown, Valparaiso, Ind.	Cheesman A. Herrick, Philadelphia, Pa.
William O. Riddell, Des Moines, Iowa	W. M. Holloway, Tallahassee, Fla.
A. C. Nelson, Salt Lake City, Utah	Thomas C. Miller, Shepherdstown, W.Va.
Reed B. Teitrick, Harrisburg, Pa.	Frank B. Dyer, Cincinnati, Ohio

TERMS EXPIRE IN 1914

W. E. Harmon, Helena, Mont.	William M. Davidson, Omaha, Nebr.
*David Felmley, Normal, Ill.	M. G. Brumbaugh, Philadelphia, Pa.
John R. Kirk, Kirksville, Mo.	*L. E. Wolfe, San Antonio, Tex.
David B. Johnson, Rock Hill, S.C.	Harlan Updegraff, Washington, D.C.
Wales C. Martindale, Detroit, Mich.	*O. S. Westcott, Chicago, Ill.
Mrs. Ellen H. Richards, Boston, Mass.	Julia Richman, New York, N.Y.
Arthur H. Chamberlain, Pasadena, Cal.	Mrs. James M. Greenwood, Kansas City, Mo.
M. Bates Stephens, Annapolis, Md.	Frank Strong, Lawrence, Kans.
Jacob A. Shawan, Columbus, Ohio	C. P. Cary, Madison, Wis.
James W. Crabtree, Peru, Nebr.	Homer H. Seerley, Cedar Falls, Iowa

* Not present at annual meeting, 1910.

Elected by the Association — *Elected by the Council*

TERMS EXPIRE IN 1915

Elected by the Association	Elected by the Council
John MacDonald, Topeka, Kans.	Miss N. Cropsey, Indianapolis, Ind.
*Alma L. Binzel, Winona, Minn.	Lewis H. Jones, Ypsilanti, Mich.
*C. O. Merica, Laramie, Wyo.	Elmer Ellsworth Brown, Washington, D.C.
S. L. Heeter, St. Paul, Minn.	William H. Black, Marshall, Mo.
*Charles McKenny, Milwaukee, Wis.	*Nicholas Murray Butler, New York, N.Y.

* Not present at annual meeting, 1910.

David Starr Jordan, Stanford University, Cal.
*W. R. Siders, Pocatello, Idaho
*William H. Maxwell, New York, N.Y.
E. G. Cooley, LaGrange, Ill.
*H. J. Rogers, Albany, N.Y.
*Luther L. Wright, Lansing, Mich.
George M. Philips, Westchester, Pa.
Edmund A. Jones, Columbus, Ohio
Ernest E. Balcomb, Providence, R.I.
†J. E. Burke, Boston, Mass.

TERMS EXPIRE IN 1916

John W. Cook, DeKalb, Ill.
*David R. Boyd, Norman, Okla.
Lorenzo D. Harvey, Menonomie, Wis.
*Edwin B. Craighead, New Orleans, La.
Carroll G. Pearse, Milwaukee, Wis.
*Henry Snyder, Jersey City, N.J.
Ella C. Sullivan, Chicago, Ill.
Randall Spaulding, Montclair, N.J.
George B. Strayer, New York, N.Y.
Frank B. Cooper, Seattle, Wash.
Anna Tolman Smith, Washington, D.C.
*William S. Sutton, Austin, Tex.
James H. Van Sickle, Baltimore, Md.
Thomas Bailey, Memphis, Tenn.
James Y. Joyner, Raleigh, N.C.
Robert J. Aley, Orono, Maine.
Charles E. Chadsey, Denver, Colo
David Snedden, Boston, Mass.
J. Stanley Brown, Joliet, Ill.
*R. L. Jones, Nashville, Tenn.

HONORARY MEMBERS

Jane Addams, Chicago, Ill.
Edwin A. Alderman, Charlottesville, Va.
Sarah Louise Arnold, Boston, Mass.
James B. Aswell, Natchitoches, La.
Brown Ayres, Knoxville, Tenn.
Earl Barnes, Philadelphia, Pa.
Alexander Graham Bell, Washington, D.C.
D. Bemis, Spokane, Wash.
Ida C. Bender, Buffalo, N.Y.
Thomas W. Bicknell, Providence, R.I.
Frederick E. Bolton, Iowa City, Iowa
Richard G. Boone, Los Angeles, Cal.
Albert G. Boyden, Bridgewater, Mass.
Anna C. Brackett, New York, N.Y.
John E. Bradley, Randolph, Mass.
Edward Brooks, Philadelphia, Pa.
William L. Bryan, Bloomington, Ind.
Matthew H. Buckham, Burlington, Vt.
David N. Camp, New Britain, Conn.
P. P. Claxton, Knoxville, Tenn.
Oscar H. Cooper, Abilene, Tex.
William J. Corthell, Gorham, Maine
E. W. Coy, Cincinnati, Ohio
O. J. Craig, Missoula, Mont.
Charles DeGarmo, Ithaca, N.Y.
Robert E. Denfeld, Duluth, Minn.
John Dewey, New York, N.Y.
V. C. Dibble, Charleston, S.C.
Katharine E. Dopp, Chicago, Ill.
John J. Doyne, Little Rock, Ark.
Charles W. Eliot, Cambridge, Mass.
E. C. Elliott, Madison, Wis.
William W. Folwell, Minneapolis, Minn.
James A. Foshay, Los Angeles, Cal.
William K. Fowler, Lincoln, Nebr.
H. B. Frissell, Hampton, Va.
R. B. Fulton, Miller School P. O., Va.
Charles B. Gilbert, Englewood, N.J.
Aaron Gove, Denver, Colo.
Lewis C. Greenlee, Denver, Colo.
James C. Greenough, Westfield, Mass.
Mrs. Edwin C. Grice, Philadelphia, Pa.
W. N. Hailmann, Cleveland, Ohio
G. Stanley Hall, Worcester, Mass.
Paul H. Hanus, Cambridge, Mass.
Walter L. Hervey, New York, N.Y.
Albert Ross Hill, Columbia, Mo.
J. George Hodgins, Toronto, Can.
James H. Hoose, Los Angeles, Cal.
George H. Howison, Berkeley, Cal.
James L. Hughes, Toronto, Can.
Thomas Hunter, New York, N.Y.
Ellen Hyde, Farmington, Mass.
Edmund J. James, Champaign, Ill.
Charles M. Jordan, Minneapolis, Minn.
E. S. Joynes, Columbia, S.C.
Calvin N. Kendall, Indianapolis, Ind.
David L. Kiehle, Portland, Ore.
William F. King, Mt. Vernon, Iowa
Henry M. Leipziger, New York, N.Y.
Livingston C. Lord, Charleston, Ill.
James MacAlister, Philadelphia, Pa.
Francis A. March, Easton, Pa.
George H. Martin, West Lynn, Mass.
Charles A. McMurray, DeKalb, Ill.
Jesse F. Millspaugh, Los Angeles, Cal.
Ernest C. Moore, New Haven, Conn.
Henry C. Morrison, Concord, N.H.
William A. Mowry, Hyde Park, Mass.
Mary E. Nicholson, Indianapolis, Ind.
John W. Olsen, St. Paul, Minn.
John M. Ordway, New Orleans, La.
Warren D. Parker, Pasadena, Cal.
John B. Peaslee, Cincinnati, Ohio
Josiah L. Pickard, Cupertino, Cal.
Edward T. Pierce, Los Angeles, Cal.
James R. Preston, Jackson, Miss.
John T. Prince, West Newton, Mass.
George J. Ramsey, Danville, Ky.
Mrs. Ellor C. Ripley, Boston, Mass.
William D. Ruffner, Lexington, Va.
James E. Russell, New York, N.Y.
Ellen C. Sabin, Milwaukee, Wis.
Henry Sabin, Des Moines, Iowa
J. G. Schurman, Ithaca, N.Y.
H. E. Shepard, Baltimore, Md.
Irwin Shepard, Winona, Minn.
Charles R. Skinner, New York, N.Y.
Euler B. Smith, LaGrange, Ga.
J. Lancaster Spalding, Peoria, Ill.

* Not present at annual meeting, 1910.

† Deceased.

Edwin E. Sparks, State College, Pa.
Homer D. Sprague, Newton, Mass.
Lucia Stickney, Cleveland, Ohio
Grace Bibb Sudborough, Omaha, Nebr.
Henry Suzzalo, New York, N.Y.
John Swett, Martinez, Cal.
A. R. Taylor, Decatur, Ill.
W. R. Thigpen, Savannah, Ga.
John G. Thompson, Fitchburg, Mass.
L. S. Thompson, Jersey City, N.J.
William O. Thompson, Columbus, Ohio
Charles F. Thwing, Cleveland, Ohio
Julia S. Tutwiler, Livingstone, Ala.
Jasper N. Wilkinson, Muskogee, Okla.
Delia L. Williams, Delaware, Ohio
J. Ormond Wilson, Washington, D.C.
John W. Withers, St. Louis, Mo.
Lightner Witmer, Philadelphia, Pa.
Harry K. Wolfe, Lincoln, Nebr.
Calvin M. Woodward, St. Louis, Mo.

DECEASED MEMBERS

Robert Allen.....1894
Israel W. Andrews.....1888
Joseph Baldwin.....1899
Henry Barnard.....1900
William N. Barringer....1907
Newton Bateman.....1897
William C. Bates.....1909
Reuben S. Bingham.....1902
George P. Brown.....1910
John T. Buchanan.....1908
J. E. Burke.....1910
Norman A. Calkins.....1895
James H. Canfield.....1909
Aaron L. Chapin.....1892
Clara Conway.....1904
J. L. M. Curry.....1902
N. R. H. Dawson.....1895
John W. Dickinson.....1901
Larkin Dunton.....1890
John Eaton.....1906
W. R. Garrett.....1903
Daniel C. Gilman.....1909
Samuel S. Greene.....1883
John M. Gregory.....1898
George T. Fairchild.....1901
Daniel B. Hagar.....1896
R. H. Halsey.....1907
John Hancock.....1891
William R. Harper.....1906
William T. Harris.....1909
William D. Henkle.....1882
Edwin C. Hewitt.....1905
Elnathan E. Higbee.....1889
Frank A. Hill.....1903
Burke A. Hinsdale.....1900
Ira C. Hoitt.....1905
George Howland.....1892
John S. Irwin.....1901
Henry N. James.....1901
H. S. Jones.....1900
Thomas Kirkland.....1898
Albert Lane.....1906
Merrick Lyon.....1888
Albert P. Marble.....1906
James McCosh.....1894
Charles D. McIver.....1906
Thomas J. Morgan.....1902
Lemuel Moss.....1905
M. A. Newell.....1893
Birdsey G. Northrop.....1898
Theodore B. Noss.....1909
Edward Olney.....1886
Gustavus J. Orr.....1888
Francis W. Parker.....1902
S. S. Parr.....1900
W. H. Payne.....1907
Selim H. Peabody.....1902
William F. Phelps.....1907
John D. Philbrick.....1885
M. S. Cooper Poucher...1900
William B. Powell.....1904
Zalmon Richards.....1890
Andrew J. Rickoff.....1899
Charles C. Rounds.....1901
Edward R. Shaw.....1903
William E. Sheldon.....1900
Edgar A. Singer.....1909
James A. Smart.....1900
F. Louis Soldan.....1908
J. W. Stearns.....1909
R. W. Stevenson.....1893
Thomas B. Stockwell....1906
Eli T. Tappan.....1908
Horace S. Tarbell.....1904
Charles O. Thompson....1885
H. S. Thompson.....1904
Arnold Tompkins.....1906
James P. Wickersham....1891
S. G. Williams.....1900
Emerson E. White.....1902

SECRETARY'S MINUTES

FIRST SESSION.—Saturday Forenoon, July 2, 1910

OFFICERS

President—Joseph Swain, president of Swarthmore College.....Swarthmore, Pa.
Vice-President—W. M. Davidson, superintendent of instruction.....Omaha, Nebr.
Secretary—John W. Carr, superintendent of schools.....Bayonne, N.J.

The Council met at New Old South Church in Boston, Mass., and was called to order at 9:30 A.M. by President Joseph Swain.

The introductory address was presented by Joseph Swain, the president of the Council.

James H. Van Sickle presented the "Report of the Committee on Exceptional Children."

Discussion by Ben Blewett, St. Louis, Mo.; Charles E. Chadsey, Denver, Colo.; Miss Bettie Dutton, Cleveland, Ohio; Wales C. Martindale, Detroit, Mich.; Miss Julia Richman, New York, N.Y.; J. H. Van Sickle, Baltimore, Md.; Miss Olive Jones, New York, N.Y.; M. P. E. Groszman, Plainfield, N.J.

Wm. H. Maxwell being absent, the paper prepared by him was read by Augustus S. Downing, of Albany, N.Y. The subject of the paper was: "The Economic Use of Education Plants."

General discussion by Lewis H. Jones, Ypsilanti, Mich.; Robert J. Aley, Orono, Maine; J. Stanley Brown, Joliet, Ill.; W. T. Carrington, Springfield, Mo.; Augustus S. Downing, Albany, N.Y.; Charles H. Keyes, Hartford, Conn.; John W. Cook, De Kalb, Ill.; M. P. E. Groszman, Plainfield, N.J.; Miss Julia Richman, New York, N.Y.

On motion, the following committee was appointed on the President's address:

James M. Green, Trenton, N.J. Chas. H. Keyes, New York, N.Y.
William M. Davidson, Omaha, Nebr.

SECOND SESSION.—Saturday Afternoon, July 2, 1910

"Report of Committee on the Place of Industries in Public Education" was the first topic considered. An introductory statement was made by Charles R. Richards, director of Cooper Union, New York City.

"Industries in the Elementary Schools" was presented by Jesse D. Burks, director of Bureau of Municipal Research, Philadelphia, Pa.

"Intermediate Industrial Schools" was presented by David S. Snedden, commissioner of education for Massachusetts, Boston, Mass.

"Industrial and Technical Education in the Secondary Schools" was presented by Charles H. Keyes, of Hartford, Conn.

Discussion by John G. Thompson, Fitchburg, Mass.; Henry B. Brown, Valparaiso, Ind.; James M. Green, Trenton, N.J.; L. D. Harvey, Menomonie, Wis.; Carroll G. Pearse, Milwaukee, Wis.; Frank B. Dyer, Cincinnati, Ohio; James M. Greenwood, Kansas City, Mo.; Arthur D. Dean, Albany, N.Y. The discussion was closed by Charles R. Richards.

THIRD SESSION.—Saturday Evening, July 2, 1910

The Council met at 8 p.m. President Swain appointed as members of the Committee on Membership Elmer E. Brown, of Washington, D.C., and Robert J. Aley, of Indianapolis, Ind. to take the places of two absent members, Livingston C. Lord, of Charleston, Ill., and I. C. McNeill, of Memphis, Tenn.

The President announced that the Committee on Membership would also act as the Committee on Nominations.

A brief report on "Co-operation with Education Organizations in Other Countries" was made by Elmer E. Brown, United States Commissioner of Education.

The report was discussed by Ernest E. Balcomb, Providence, R.I.; and Miss Anna Tolman Smith, Washington, D.C.

The chairman of the Committee on the Culture Element and Economy of Time in Education, James H. Baker, president of the University of Colorado, Boulder, Colo., reported progress and stated that a final report would be made next year.

"Report on Educational Progress during the Year" was made by Frank Strong, chancellor of the University of Kansas, Lawrence, Kans.

FOURTH SESSION.—Tuesday Forenoon, July 5, 1910

The Council met at 9:30 a.m. The first subject presented was the "Report of the Committee on Moral Education in the Public Schools." James M. Greenwood, chairman of the committee, made a preliminary statement of the work of the committee. John W. Carr, secretary of the committee, read the Introduction and Recommendations of the Committee.

Discussion by John W. Abercrombie, University, Ala.; William H. Black, Marshall, Mo.; John W. Cook, DeKalb, Ill.; D. B. Johnson, Rock Hill, S.C.; Miss Nebraska Cropsey, Indianapolis, Ind.; John R. Kirk, Kirksville, Mo.; Mrs. Ella Flagg Young Chicago, Ill.; and Martin G. Brumbaugh, Philadelphia, Pa.

The next topic, "Physical Education in Its Various Phases, Elementary, Secondary and Higher," was presented by Dudley A. Sargent, director of Hemenway Gymnasium, Harvard University.

A paper on the same subject was prepared by Luther H. Gulick, Russell Sage Foundation, New York City, N.Y. Mr. Gulick was unable to be present, and the paper was read by another.

Clark W. Hetherington, professor of physical education, University of Missouri, Columbia, Mo., presented the last paper on this subject.

Discussion by David Starr Jordan, Stanford University, Cal.; Wm. H. Bartholomew, Louisville, Ky.; Mrs. Ellen H. Richards, Boston, Mass.; Homer H. Seerley, Cedar Falls, Iowa.

FIFTH SESSION.—Wednesday Forenoon, July 6, 1910

The Council met at 9:30 A.M. with Vice-President William M. Davidson presiding.

The first subject on the program, "The Vocational and Industrial School," was presented by Frederick P. Fish, president of the State Board of Education in Massachusetts.

The next paper on the same subject was presented by Theodore W. Robinson, vice-president of the Illinois Steel Company, and president of the Chicago Commercial Club.

The next speaker on this topic was Charles H. Winslow, Chairman of the Committee on Industrial Education for the American Federation of Labor, Washington, D.C. The last speaker was Henry Abraham, secretary of the Central Labor Union of Boston, Mass.

Questions were asked by Thomas W. Bicknell, Ben Blewett, J. W. Carr, F. G. Blair, Chas. H. Keyes, and James M. Greenwood, and were answered by Mr. Robinson, Mr. Abraham, Mr. Winslow, and Mr. Greenwood.

Discussion by Augustus S. Downing, Albany, N.Y.; Mrs. Ella Flagg Young, Chicago, Ill.; Chas. E. Chadsey, Denver, Colo.; Thomas W. Bicknell, Providence, R.I.; Charles H. Winslow, Washington, D.C.

By resolution the thanks of the Council were tendered to Messrs. Fish, Robinson, Winslow, and Abraham for their excellent addresses.

On motion of James M. Greenwood, the Council went into executive session.

EXECUTIVE SESSION

On motion, the Committee on Exceptional Children was continued another year.

The Committee on the President's Address made the following report, which on motion was adopted.

Boston, Mass., July 5, 1910

The committee appointed to report on the President's address recommends as follows:

First: The continuation of the practice of having a report on the educational progress of the year, as required by the Constitution.

Second: Three of the six committees appointed three years ago have rendered completed reports or probably will have done so with this meeting. Three others, on the following topics:

Provision for Exceptional Children in the Public Schools;

The Culture Element and Economy of Time in Education; and

Co-operation with Educational Organizations in Other Countries, will report in the future.

It seems proper at this time to propose new questions for investigation, and the committee offer the following:

The Attitude of Labor toward Industrial Education.

The Relation between Public Schools and Private Colleges.

The Administration of Public Educational Systems.

The committee wishes to commend the degree of interest in the work of the Council secured by our President in his plan of program, including the three-minute speeches, but feels that it should be kept constantly in mind that we are a Council, and that there should be as much opportunity as possible for spontaneous discussions, and possibly one or more closed sessions.

The United States Commissioner of Education is working in the closest harmony with the educational policies of this Council. We recognize the increasing efficiency of the Bureau under his administration, and we ask for him the most cordial support on the part of Congress in the development of his plans.

We recommend to the Board of Directors the appointment of an advisory committee to act in conjunction with the Commission in securing needed legislation.

The further questions of the President should remain with the Executive Committee.

Finally, the committee wish to note the very successful administration of the retiring President.

JAMES M. GREEN
CHAS. H. KEYES
WILLIAM M. DAVIDSON } *Committee*

The question of the publication of the Report on Moral Education was referred to the Executive Committee with power to act.

The Committee on Membership made the following report, which on motion was adopted:

To the National Council:

Your Committee on Membership, which was also appointed to act as the Committee on Nominations, recommend the election of the following:

OFFICERS OF THE COUNCIL

Charles H. Keyes, New York, N.Y., to succeed Joseph Swain as president of the Council, for a term of three years, term ending in 1913.

MEMBERS OF THE EXECUTIVE COMMITTEE

Joseph Swain, Swarthmore, Pa., to succeed William T. Harris, deceased, as a member of the Executive Committee of the Council, for a term of three years, term ending in 1913.

MEMBERS OF THE COMMITTEE ON MEMBERSHIP

Elmer E. Brown, Washington, D.C., to succeed Livingston C. Lord for a term of three years, term expiring in 1913.

Robert J. Aley, Indianapolis, Ind., to succeed I. C. McNeill for a term of three years, term ending in 1913.

James Y. Joyner, Raleigh, N.C., to succeed Charles H. Keyes, resigning to accept the presidency of the Council, term ending in 1911.

MEMBERS OF THE COMMITTEE ON INVESTIGATION AND APPROPRIATIONS

Augustus S. Downing, Albany, N.Y., to succeed himself for a term of three years, term ending in 1913.

Lorenzo D. Harvey, Menomonie, Wis., to succeed himself for a term of three years, term ending in 1913.

John H. Phillips, Birmingham, Ala., to succeed himself for a term of three years, term ending in 1913.

E. T. Fairchild, Topeka, Kans., to succeed William O. Thompson, absent from two successive meetings, term ending in 1911.

MEMBERSHIP

Terms ending in 1911:

W. J. Kerr, Corvallis, Ore., to succeed Frank B. Cooper, absent from two successive meetings.

G. W. A. Luckey, Lincoln, Nebr., to succeed Frederick E. Bolton, absent from two successive meetings.

John A. Wood, South Bend, Ind., to succeed Jane Addams, absent from two successive meetings.

Terms ending in 1912:

Edwin S. Monroe, Muskogee, Okla., to succeed J. N. Wilkinson, absent from two successive meetings.

W. H. Elson, Cleveland, Ohio, to succeed W. O. Thompson, absent from two successive meetings.

C. G. Schulz, St. Paul, Minn., to succeed John W. Olsen, absent from two successive meetings.

Terms ending in 1913:

Andrew S. Draper, Albany, N.Y., to succeed himself.

Frank E. Parlin, Cambridge, Mass., to succeed Mrs. Ellor C. Ripley, absent from two successive meetings.

Cheesman A. Herrick, Philadelphia, Pa., to succeed Mrs. Edwin C. Grice, absent from two successive meetings.

W. M. Holloway, Tallahassee, Fla., to succeed J. W. Withers, absent from two successive meetings.

Terms ending in 1914:

Harlan Updegraff, Washington, D.C., to succeed J. E. Russell, absent from two successive meetings.

C. P. Cary, Madison, Wis., to succeed E. C. Elliott, absent from two successive meetings.

Terms ending in 1916:

Anna Tolman Smith, Washington, D.C., to succeed herself.

William S. Sutton, Austin, Tex., to succeed himself.

James H. Van Sickle, Baltimore, Md., to succeed himself.

Thomas Bailey, Memphis, Tenn., to succeed James B. Aswell, absent from two successive meetings.

James Y. Joyner, Raleigh, N.C., to succeed Brown Ayres, absent from two successive meetings.

Robert J. Aley, Orono, Maine, to succeed himself.

Charles E. Chadsey, Denver, Colo., to succeed himself.

David Snedden, Boston, Mass., to succeed Paul H. Hanus, absent from two successive meetings.

J. Stanley Brown, Joliet, Ill., to succeed himself.

R. L. Jones, Nashville, Tenn., to succeed himself.

On motion the following was adopted:

Resolved, That the President be empowered to designate certain sessions of the Council as open to members only, and that in the selection of a meeting-place, due consideration should be given to securing a room reasonably remote from the annoyance of distracting noises of the street.

On motion, the secretary was instructed to notify each member who has been transferred from active to honorary membership.

On motion the following resolution was adopted:

Resolved, That it be required of the Committee on Nominations, that it shall hereafter when submitting its report at the time of the Annual Business Meeting of the Council, include in its report the names of all members whose names under the rule are to be placed on the list of Honorary Members of the Council.

The minutes of the Denver meeting were approved as printed in the volume of *Proceedings*.

On motion the following resolution read by L. D. Harvey was referred to the Committee on Co-operation with Educational Organizations in Other Countries.

Resolved, That the President of the Association be authorized to appoint a committee of five members, of which Honorable Elmer E. Brown, U.S. Commissioner of Education, shall be chairman, to correspond with proper persons in all the civilized countries of the world, with a view to organizing an International Educational Association and holding the first meeting of the same at some convenient place in Europe in August, 1911.

Resolved further, That the Board of Directors be asked to authorize an appropriation not to exceed $500, out of the Treasury of the Association, to defray the necessary expenses of this committee.

After thanking the council for the courtesy shown him during his term of office, President Joseph Swain introduced his successor, Charles H. Keyes.

On assuming the chair, President Keyes thanked the Council for the honor conferred upon him.

Adjourned.

JOHN W. CARR, *Secretary*

PAPERS AND DISCUSSIONS

INTRODUCTORY STATEMENT

PRESIDENT JOSEPH SWAIN, SWARTHMORE COLLEGE, SWARTHMORE, PA.
PRESIDENT OF THE COUNCIL

In pursuing the object of this Council as set forth in the preamble to its constitution and in the several separate resolutions of the Council in the past few years in harmony therewith, it is the present practice of this body to have the program in three parts: First, the report of the Educational Progress of the Year, which is required by the constitution. Second, the reports of committees for special investigation and a general discussion of the same. Third, a general discussion of other important topics which may, if the Council so directs, be taken up in the future by committees deemed especially fitted by training and experience to make special study and embody their conclusions in a report to the Council.

Three years ago the President of the Council was directed to appoint six committees to investigate certain questions and report their conclusions to the Council. These questions were:

Industrial Education in Rural Schools.
A System of Teaching Morals in the Public Schools.
The Scarcity of Teachers.
Provision for Exceptional Children in the Public Schools.
The Culture Element and Economy of Time in Education.
Co-operation with Educational Organizations in Other Countries.

The Committee on Industrial Education, L. D. Harvey, of Menomonie, Wis., chairman, and the Committee on the Scarcity of Teachers, I. C. McNeill, of Memphis, Tenn., chairman, presented completed reports in 1908, which were printed in the *Proceedings* of that year. The Committee on Provision for Exceptional Children, James H. Van Sickle, of Baltimore, Md., chairman, presented a preliminary report in 1908 and a supplementary report in 1909 and has a statement to present at this meeting. The Committee on Moral Education in the Public Schools, James M. Greenwood, of Kansas City, Mo., chairman, presented a preliminary report in 1908, which was printed only in outline in the *Proceedings*. In 1909 a brief report of the progress of this committee was given to the Council. This year this committee will present to you a tentative report signed by all its members, for your consideration and discussion. The Committee on the Culture Element and Economy of Time in Education, James H. Baker, of Boulder, Colo., chairman, gave a preliminary report in 1908, and a report of the progress of the committee in 1909. This committee is still continuing its labors but will make no report this year. The Committee on Co-operation with Educational Organizations of Other Countries, our late honored leader, William T. Harris, chairman, made a report in 1908. Commissioner Brown

reported for this committee in 1909 and he will also present a statement this year. It thus appears that at the close of this meeting of the Council, three of the committees will have presented completed reports, leaving three committees with unfinished reports.

The great amount of labor and time expended by our committees without compensation or even money for traveling expenses or clerical services is an indication of the fact that our educational leaders are willing to do everything in their power, even tho it means much personal sacrifice, to advance the great work of American education. These reports are all made with care and with great labor and they are serving a distinct purpose. They are not only of service in themselves, but they have been instrumental in starting further investigation in the United States Bureau of Education, and in private societies and foundations. For example, growing out of the work of the Committee on Exceptional Children, a new committee has been appointed to prepare a report to be published by the United States Bureau of Education.

At the request of the Council Committee on Provision for Exceptional Children, the Commissioner of Education called a conference at the Indianapolis meeting of the Department of Superintendence. At this conference there were present, besides the committee, a number of men who have made a special study of this work. As a result of the conference the Commissioner has appointed a committee to prepare a brief bulletin, which will give as fully as possible the present practice in cities of the United States in dealing with exceptional children in their public schools.

The United States Commissioner of Education has appointed the chairman of our committee chairman of the new committee. This committee in turn has secured the aid of one of the professors of the University of Pennsylvania and one of the members of the Sage Foundation. Thus the work of the Council has been successful in promoting not only its own work, but the work of other bodies.

In a different direction, a member of the Committee on Moral Education has been made president of the Character Development League, which, it is said, has been endowed with a million dollars for the purpose of character-building in our public schools. While, therefore, lack of funds has greatly hampered our committees in their investigations and we should earnestly put ourselves to the task of correcting this defect, we nevertheless can take courage to continue the general policy pursued of appointing such committees, not only for the sake of the work they do, but for the work they inspire in other organizations. Possibly one of our leading functions should be the testing of the theories and experiences of other workers and the pointing-out of needed reform in the public-school system and investigations to be made by educational bureaus of state and national government as well as in private foundations for education and research.

Perhaps the time has arrived when one or more additional committees

should be appointed to take up some of the many questions which our rapidly developing public-school system is creating in order to adjust itself to the changed conditions of our civilization.

All of the new questions discussed in the last three years in this Council have been chosen from carefully compiled lists prepared thru the suggestions of members of the Council. No question has been selected that has not been proposed by more than one member and from members from different parts of the country. Thus they have represented wide interests. The particular questions chosen have been largely determined by the President's ability to secure the right person to lead the discussion, for the matter of proper persons to discuss topics is at least of equal importance with the topic itself. The new topics in 1908 were these:

The Distinctive Functions of University, College, and Normal Schools in the Preparation of Teachers.

Household Science in Elementary and Secondary Schools.

In 1909 the new topics were:

What Industrial Education Means to the Elementary Schools.

Rural School Supervision.

The Adjustment of our School System to the Changed Conditions of the Twentieth Century.

The Administration of Public Educational Systems.

The new topics for this year, 1910, are:

The Vocational and Industrial School.

The Economic Use of Educational Plants.

Physical Education in Its Various Phases: Elementary, Secondary, and Higher.

From these questions or special aspects of them, one or more questions could profitably be selected for minute study by a committee or committees appointed for this purpose.

I desire to call special attention to the topic, "The Vocational and Industrial School," assigned for the last session of the Council this year. This topic may be considered as included in the discussion of the report on "The Place of Industries in Public Education," but the point of view may be distinctly different. The men who will discuss the Vocational and Industrial School question are all of them representative business men, who, thru their interest and practical experience, have come to certain conclusions concerning these schools. It is proposed to give them a full hearing, unhampered by the theories of pedagogs. It is believed that such a hearing will be greatly to the benefit of a better understanding of the vocational school and its problems. It is by the perfect harmony of theory and practice, founded on experience, that we must get the best results in all forms of education.

The lack of funds for the work of this Council emphasizes the importance of increased appropriation to the United States Bureau of Education, between which and this body there is such unity of purpose.

The past year has been little short of a revolutionary epoch in the history of the Bureau of Education. For the first time in the history of that office, it has been housed in one of the great buildings belonging to the federal government. The change has involved a removal from the cramped and dilapidated building which had for many years been rented for the purpose, to comfortable and dignified quarters in the building formerly occupied by the Post Office Department. With this change has come an important internal reorganization. One of the most vigorous and experienced members of the staff has been advanced to the position of chief clerk, a position which carries with it the responsibility of serving as Acting Commissioner in the absence of the Commissioner from Washington. The work of the Library upon the lines laid out two years ago has been continued, and the collection has been so rearranged in the new quarters as to make it much more available for regular use. A new Division of School Administration has been erected, in charge of a highly trained and experienced specialist, who is devoting a large part of his time to work in the field.

The *Annual Report* for the year 1909 was brought out with unprecedented celerity, the first volume appearing in December, 1909, and the second volume in April, 1910. The contents of these volumes has commanded unusual attention. Arrangements have been made under which the reports of succeedings years may be expected to appear with equal promptness.

The biennial digest of educational legislation in all the states has been changed to an annual publication. Congress has provided an editor, to have immediate charge of the publication service. Within the past month another new position has been created by Congress, that of Specialist in Higher Education, at an annual salary of three thousand dollars, which has set a new standard for salaries in the Bureau. In taking this step Congress seems to have entered definitely on the carrying-out of the plan which has been urged of providing the Bureau with an adequate staff of well-equipped specialists. Many educational officials and institutions thruout the country are now participating in a regular campaign for securing to the Bureau an adequate staff of such specialists, with funds to enable them to devote a large part of their time to work in the field.

The reorganization of the Alaska work, which has been going on for the past three years, has now been completed and turned over to a superintendent called in from the field. With the increase of the Alaska appropriation from one hundred thousand dollars to two hundred thousand dollars three years ago, the work has been greatly expanded. The expansion in number of schools, of teachers, of reindeer stations, and of other special provision for industrial education, has ranged from 50 per cent. to 500 per cent. within this three-year period. An entirely new sanitary campaign has been organized, embracing the employment of physicians and nurses, contracts with local hospitals, and other provision for the improvement of

health conditions. The Alaska of the Eskimo and Indian is recognized as the great experiment station of the Bureau, and this work is now more closely than ever before co-ordinated with the Bureau's other activities.

I would call attention to a recommendation of the United States Commissioner of Education made last year, which was doubtless overlooked by the Council. After calling attention to the desirability of entering into communication with societies and organizations in foreign countries, with the view to inviting them to consider with us questions of international character, he said:

> It is accordingly recommended that the National Council at this meeting appoint a Committee on International Correspondence; that this committee be instructed to enter into communication with representative educational bodies of other lands, with a view to learning whether they would regard the program here referred to as practicable and desirable; and that the committee be further directed to report the results of such correspondence at the next meeting of this Council.

I would ask that the usual committee be appointed for the consideration of this and any other questions arising from this statement by the President of the Council.

In conclusion, I am sure I express what is in the mind and heart of every member of this Council today when I say we all feel a great sense of loss and deep sorrow in the death of Dr. William T. Harris, the universally recognized leader in the counsels of this body for more than a generation. His profound learning, his keen insight into the things of the spirit, his unselfish devotion to the service of humanity, his unwavering faith in the democracy of the public schools, his simple manner, his mastery of debate, his kind heart, his passion for the truth, his ability to go right to the heart of his theme, and his alertness to detect mere show and sham—all these attainments and more made him to each one of us guide, philosopher, and friend. May we all cherish his memory by doing what he would have us do thru the example and inspiration he has given us, by dedicating ourselves anew to the service of the school, the hope of our country, which he did so much to promote.

REPORT OF COMMITTEE ON PROVISION FOR EXCEPTIONAL CHILDREN IN THE PUBLIC SCHOOLS

JAMES H. VAN SICKLE, SUPERINTENDENT OF SCHOOLS, BALTIMORE, MD.

The Report of the Committee on Provision for Exceptional Children in the Public Schools presented to this body in 1908 was styled "preliminary" with the idea that after a more detailed study of the problem had been made by your committee a full report would be prepared. As funds of the Association have not been available for carrying on your committee's work, at the meeting of the Department of Superintendence at Indianapolis in March, 1910, the Commissioner of Education, at our request, called a joint meeting of the committee and a number of specialists in this field

whose experience would enable them to give valuable advice, and who were willing to aid in any way that might be thought best. It was the consensus of opinion at this meeting that there is a special need at this time of information as to exactly what is now being done for exceptional children in public schools with special reference to the better things that are done, what means are employed and what results attained, together with a statement of what additional things public schools should do and practical suggestions for beginning and carrying on work in special classes. Commissioner Brown stated that the Bureau of Education stands ready to compile and publish a bulletin showing what is now being done in the different cities of this country and to act as a co-ordinating agency to unify the efforts of the different workers in the field. When the meeting adjourned it was understood that Dr. Brown would appoint a special committee of three to prepare such a bulletin for publication—one a superintendent of schools to represent the school management side; the second to deal with the statistics of retardation; and the third to deal with the problem of the special treatment of mentally and physically defective children. Subsequently the following named members of the conference were appointed by the Commissioner and they have signified their willingness to co-operate in the work: Dr. Lightner Witmer, Dr. Leonard P. Ayres, and Superintendent J. H. Van Sickle.

To aid the committee in gathering material for the bulletin, Dr. Brown sent out a circular letter of inquiry to which replies have already been received from fifty-six cities. It is hoped that, in view of the importance of the inquiry and the need for early publication of the bulletin, all superintendents who have not yet replied will do so with as little delay as possible.

The committee expects to treat in the bulletin as many of the following topics as the data received in response to the circular letter permits:

I. A provisional nomenclature for use in this field.

II. Agencies for the treatment of retardation in the public schools.

A. Educational

1. Day schools for truants.
2. Schools for backward children.
3. Parental or residential schools.
4. Special classes for:
   - *a*) Deaf and semi-deaf.
   - *b*) Blind and semi-blind.
   - *c*) Backward children.
   - *d*) Epileptics.
   - *e*) Non-English-speaking.
   - *f*) Late entering.
   - *g*) Working paper classes.
   - *h*) Classes for gifted children.
   - *i*) Vocational classes.
5. General adaptation of the curriculum to meet the differentiated needs of the pupils of the public schools:

a) In elementary schools.
b) In secondary schools.
6. General classification according to ability:
a) Mental.
b) Physical.
(1) Medical inspection for contagious and infectious diseases.
(2) Medical inspection for defects.
(3) Physical examination.
(4) Dental clinics.

B. Social

1. The school nurse as a social visitor.
2. Home and school clubs; mothers' clubs.
3. Public baths and school baths.
4. School luncheons.
5. School kitchens and cooking classes.
6. Playgrounds.
7. Recreation centers.
8. Clothing, and home environment.
9. Gymnasia.
10. Training for "little mothers."

III. Bibliography. In considering the question of a bibliography, the committee has had in mind a bibliography that would be directly serviceable to the superintendents of this country who are looking into the problem of the treatment of backward children, with a view to introducing work along this line. We have thought that a list of references which superintendents might be expected to have and to use would be much more serviceable than a complete bibliography culled from periodical literature in many branches of science, which the student in this field would find it desirable to consult.

IV. The committee will include in the bulletin, if they find it possible to do so, a report on some of the best recent work of related character in foreign lands.

DISCUSSION

Maximilian P. E. Groszmann, Plainfield, N.J.—The words of the last speaker contain a deceptive argument. If we were dealing only with the problem of the individual we might assent to the proposition to allow our weak-minded "hewers of wood and drawers of water" to work out their own salvation. But as a matter of fact we are dealing with a grave social problem. How will you prevent these "humble workers" from propagating their kind and thus becoming a public menace? The family histories of these individuals as exemplified by Mr. Johnstone's chart should open the eyes of all thinking people. And it is a mistake to think that institutional care of these individuals would mean prison life. They are made happy and contented if the right organization is developed.

This brings up once more the question of the function of the special or ungraded classes in public schools. They ought to be of two kinds: one a sort of observational clinic in which a mental and moral status of the child is ascertained and from which he is transferred to his proper educational environment; and the other giving those children who can be more or less readily restored to average response their proper opportunity. The public school is not a place for those children who cannot be thus readily restored to fairly normal equilibrium.

Miss Julia Richman, district superintendent of city schools, New York, N.Y.—There seems nothing to be added to what has already been said, unless perhaps the result of certain observations I have made. For six and a half years I have been watching the

effect of special grading for "overage" children in the schools of my own district. With twenty-three thousand school children crowded into a space covering less than three hundred acres, practically all of them foreign-born or of foreign parentage, under housing conditions at times intolerable, in an environment un-American at all times, unhygienic often, generally unfavorable to the best moral, physical, and mental development of the child, this district presents a field for the observation of the exceptional child greater in need and richer in material than the average school community. Thirteen terms ago we began to segregate all the "overage" children, placing them in special classes under the best available teachers, and eliminating from the course of studies many "non-essentials." After six and a half years of careful effort, we still have about four thousand children in special classes. (This does not include the ungraded classes for children pronounced mentally deficient after a thoro pathological and psychological examination.)

A study of these special classes discloses much of interest and value. In three minutes I can emphasize but one point. These children can be roughly classified into two great divisions: the child with average mental powers, "overage" thru late entrance, illness, frequent transfers, etc., and the child of such limited mentality that altho not technically called "mentally deficient" he must be classified as the border-line child or the "near defective." For the former class, careful individual instruction and help will soon bring him up to grade. Rarely should it require more than two years to bring him back to the regular class for children of his own age. The problem is far more delicate and serious for the other child, the exceptionally dull, the "near defective." It is for us to protest against the further waste of time and money and of the life-blood of both teacher and children in futile efforts to teach such *what they cannot learn*. All these details of our traditional courses of study that we in our arrogance deem "essentials," but which require for their mastery intellectual powers beyond the capacity of children of this type, must be swept aside and in their stead there must come help and instruction along lines fitted to the child's future needs and mental limitations. Just what these lines are to be depends upon the genius of "divinely touched" teachers to discover and develop. Their effect will be to give the poor handicapped child a greater interest in classroom tests, a greater hope for satisfactory achievement, and a greater confidence in his ability to turn chronic failure into something akin to success.

One thing more. What shall be our attitude toward the real mental defective? Given a boy, able-bodied, generally intelligent in every direction but book-learning, over fourteen years of age, anxious and able to get work—should the law compel him to remain in school until he is sixteen, because he cannot work an example in long division or write a composition? At sixteen or at sixty these tasks will still be beyond his feeble mental powers, even tho we keep him in school for that full period. What, then, is the proper course to pursue? To keep him at his desk working, working, working at the unattainable, giving him two years of discouraging, futile effort in school, with idleness and possible harmful company outside of school, or to let him get into some useful occupation, where he becomes self-dependent and self-respecting? This is a phase of the problem which this committee must consider in its final report.

Charles E. Chadsey, superintendent of schools, Denver, Colo.—The investigation made by Mr. Ayer, under the auspices of the Russell Sage Foundation, of retarded children has resulted in much activity in many places, in the effort to overcome existing conditions. Nearly every city in which investigations have been made proves to have a surprisingly large percentage of children two, three, and four years behind the grades to which normal children of their ages are supposed to belong. Given the existence of such conditions, each city is face to face with the problem of overcoming the admitted unfortunate condition.

It is necessary for principals and teachers of a given system to realize fully the nature and extent of the evil and to become inspired with a desire to relieve the conditions.

Many teachers and not a few principals have felt conscientiously that a large percentage of failures in the grades was not to be considered a reflection upon the effectiveness of the work. In fact, sometimes it has been felt that such conditions merely indicated that high standards were sustained. A superintendent's first duty is to overcome these false ideas and to have both teachers and principals impressed with the thought that an unnecessary failure is an evil of the first magnitude. When principals and teachers do fully realize that part of their duty is to spare no pains to secure the successful accomplishment of the year's work in as many cases as possible, the percentage of retardation will be found to diminish.

The next problem in the overcoming of this evil is to have the community convinced of the desirability of special schools being established in which pupils who are retarded may receive proper attention. While all are willing to concede the desirability of such special schools, many feel a personal pride as to their own children and have the feeling that there is a reflection upon the family if any member is compelled to be in attendance at such a school. To convince such parents of their error is a problem which we have been attempting to solve in Denver by special meetings in various parts of the city. It is our hope, thru the establishment of these special schools for retarded children in various centers of the city, to be able to show in a few years a decided diminution of the number of such children.

Ben Blewett, superintendent of schools, St. Louis, Mo.—The report of the committee gives a practical classification of the types of children who should be educated apart from the ordinary scheme of the school for normal children. Much has been accomplished when the facts set forth in the report are recognized and used as principles in the organization of the work with exceptional children.

To select the children that come under these several types is a practical detail more difficult than the theoretical classification of types; more difficult, if for no other reason, because each case presents differentiations from the type. Unless expert skill is exercised in the selection and assignment to peculiar training, serious harm may be done. For this expert diagnosis the skill of both the physician and the psychologist is needed. This skill should be at the service of boards of education providing schools for exceptional children.

To place a child in the class of mental defectives when his trouble is a remediable physical condition works greater harm than to leave a mentally deficient child in the association of normal children. To burden the schools with the task of educating a child whom the expert psychologist could readily determine as hopelessly handicapped by heredity or by the chances of birth is conduct that is without reasonable excuse.

Olive M. Jones, principal, Public School 120 (Special School for Delinquent Boys), New York, N.Y.—A question has been raised in regard to the future of the exceptional child. May I venture to express an opinion based upon an actual experience of nearly five years in caring for at least one type of exceptional child? Many of these children are physically strong and able, and altho mentally unfit to gain much from the ordinary school education, they are neither idiots nor imbeciles, and they are capable of becoming self-respecting and self-supporting in some one of the lower walks of life. Shall we force them to remain in school and attempt to force upon them an education nature has not fitted them to receive?

One such boy is in my school now. He is very poor and the only means of support to a feeble, widowed mother. The most persistent, painstaking efforts have failed to bring that boy to the place where he can pass the examination upon which an employment certificate is conditional in New York, if the applicant is under sixteen. He will not be sixteen until next December. Yet he is a great, strong boy, can lift and pull and tug, is our most trusted errand boy, handy and skillful in a thousand ways. He can never

be taught to work a problem in arithmetic as long as he lives, but he can bargain and make change with more shrewdness, speed, and accuracy than most of us.

Such boys are not institution cases, even if the institutions which would receive them were all of the right kind or sufficient in number to accommodate them all. Would it not be wiser as a civic question, as well as kinder and safer for the boy, to let him go to work as porter or stoker or packer, any one of which jobs he could do well? There must always be hewers of wood and drawers of water, you know, and some of us must always do the thinking for some of the others. Then why institutionalize and confine such a child and deprive him of his right to an independent, self-respecting existence? Why not rather train him to do efficiently the things he can do and then let him go out to earn the livelihood he can earn?

THE ECONOMICAL USE OF SCHOOL BUILDINGS

WILLIAM H. MAXWELL, SUPERINTENDENT OF SCHOOLS, NEW YORK CITY

That a public-school building may be used economically it ought to be used all of the time—summer and winter, morning, afternoon, and evening—and it ought to be used for the greatest benefit to the greatest number of people. Otherwise a large part of the people's investment in the building is wasted. To use a school building only from nine to three, five days in the week, nine months in the year—in other words, to allow it to remain unused more than one-half the working year—is not only to waste the people's money, but to deprive of the benefits of its use many thousands of persons of all ages who might otherwise take advantage of them.

It is evident, however, that a building which consists of a cellar, corridors, and rooms furnished with children's seats and desks fastened to the floor may be conveniently used for but one purpose—the conduct of school recitations. If a school building is to be used for social and recreative purposes, even if it is to be used economically for the purposes of a modern school, it should be constructed and furnished very differently from the prevailing type of schoolhouse.

In all of this discussion two considerations are, I think, self-evident:

1. The schoolhouse is intended primarily for children. If, therefore, there comes a conflict between the interests of children and the interests of adults in planning the building, the interests of the children must prevail.

2. Children are entitled to time and opportunity for play—the natural means of development for the young of the human species, as it is for the young of all animals.

My first proposition, then, is that every schoolhouse should have abundant play-space. I need not dwell on the importance of providing large out-of-doors playgrounds. These are of the greatest service when they are fully equipped and rightly used. When, however, they are laid out in grass and flowers, as is the case in many of our smaller cities and villages, they are more ornamental than useful. Happily, school gardening is coming into vogue and is rapidly converting sham playgrounds into real playgrounds. But the outdoor playground, no matter how it may be used, is not sufficient. It is not used on excessively hot days. It is not used on very

cold days. It is not used at night. It is not used when it rains or when it snows. Under the best of conditions, it is used less than one-half the days of the school year. By the erection of suitable shelters it might be used much more than it is. In any case, however, it should be supplemented by a large indoor or covered playground. In New York, where the cost of sites is so high as to prohibit the purchase of much more land than that on which the building stands, we utilize practically the whole of the ground floor as an indoor playground. This large room is kept heated in winter to about fifty degrees. It has large folding doors and abundant window space, so that there may always be a free circulation of air. Its walls, floor, and ceiling are given a light and cheerful finish, so that it may not offend the æsthetic feelings. Permanent benches are constructed round the walls, so that tired children may have somewhere to rest. It is equipped with the usual gymnasium outfit—wands, clubs, dumb-bells, jumping-mats, bars, and horses. A small movable platform for the use of teachers or speakers adds greatly to the number of uses to which the room may be put. By all means let us have outdoor playgrounds if we can, but whether we can or not, every school should be provided with an indoor playground. Its advantages are:

a) It can be used in all weathers, at all seasons of the year, at all hours of the day or evening.

b) Where a school is so crowded that, as is often the case in New York, two classes must occupy the same room at different hours, one class may be having, in the covered playground, games, or folk dancing, or calisthenics, while the other class is reciting.

c) The covered playground solves the problem of a place in which to provide recreative space for young working-people on winter evenings. It may be made so attractive as to draw girls from dance halls and young men from saloons.

In New York in the densely populated parts, where an outdoor playground is impossible on account of the cost, we have solved the problem by constructing playgrounds on the roof. Such roof playgrounds are now rendered feasible thru modern methods of fireproof construction. The floor of the playground, which is also the roof of the building, is constructed of vitrified tile or brick. Abundant entrances and exits, toilet facilities, and drinking-water are provided. A parapet wall three or four feet high surrounds the roof, while the top and sides are inclosed by a wire netting stretched over steel trusses, to prevent the throwing of injurious missiles into the surrounding streets. Such a playground on the roof may be used not only for ordinary play purposes but for band concerts and dancing on summer nights.

A schoolhouse should be equipped not only with playgrounds but with an assembly room that will accommodate at least one-third of the school at one time, and with shops and cooking-rooms for manual training in the case of the older children.

In order that an assembly room may be used, as it should be, for lectures, concerts, and other entertainments, as well as for ordinary school purposes,

it should be placed not higher than the first classroom floor and may be placed, if the configuration of the ground permits, below the level of the street, its roof constructed largely of glass forming the floor of an interior court. Its seats should be such that it may be used not only by the smaller children but by adults. Benches should be discarded because they are uncomfortable and do not conform to the now universally accepted plan of radial aisles. Proper provision should also be made for the use of a stereopticon and screen. Electrical conduits and wiring should be brought to a central point at the rear of the room, never to the center, so as to avoid annoyance to the audience by the operation of the lantern. The screen, which when hung from the ceiling generally presents an untidy appearance, should be placed in a pocket in the floor of the platform, from which it may be raised by means of a pulley, and to which it may be restored when not in use. The stage itself should be furnished with side entrances, curtains at the front, and footlights, to permit of dramatic performances. Every schoolhouse should be a children's theater.

Even the classroom should be planned with a view to its use for other than strictly school purposes. Much difference of opinion continues to exist regarding the size of classrooms. Doubtless a very large classroom—one, say, twenty-six by thirty-two feet—serves social purposes better than a smaller room. In spite of this fact, however, I must give my allegiance to the smaller room, say the German standard of twenty-two by thirty feet. My reasons are:

a) The smaller room conserves both teachers' and pupils' energy, because less effort is required in the use of the voice in a room of nine thousand cubic feet capacity than in one of twelve thousand cubic feet.

b) The smaller room admits of perfect lighting while using only one side of the room for windows, because the innermost row of desks is brought well within the limit of proper lighting, which is conceded to be one and one-half the height of the top of the windows from the floor. In the larger room windows are generally formed in the side and rear—an arrangement which compels the teacher to face the light.

The important consideration, however, to render a classroom appropriate for social as well as school purposes, is not the size of the room so much as its furniture. As classrooms are now furnished with seats and desks fastened to the floor, they serve only the school purposes of reading, writing, and listening. The seats are too small for adults. The desks are not suitable for drawing or manual training. There is no reform in school construction more needed today than the destruction of the fixed seat and desk and the substitution of movable tables and chairs. The advantages of the latter are these:

a) Movable furniture is more wholesome, because it permits the removal of all dirt and dust from the floor.

b) It can be better arranged by the teacher either for class exercises or for group exercises.

c) The tables serve better for manual training and drawing exercises.

d) By proper disposition of the furniture every classroom may become at will a recitation room, a game-room, a dancing-floor, a gymnasium.

e) Each room may be freely used in the afternoon or evening for club or other social purposes.

There is only one other reform in school construction comparable in utility with the substitution of movable for fixed furniture, and that is the invention of a system of artificial ventilation that will supply thirty cubic feet of fresh air per pupil per minute, and that will work in all weathers, in all rooms, and whether the windows are open or closed.

Recent medical research and experimentation show that breathing pure air, night and day, is the most potent means of curing and preventing tuberculosis—the plague of modern civilization. The schools have properly been called upon to do their part in this all-important work. Started in Germany, the open-air class has also been tried with beneficial results in several European countries. The first class of the kind in America was established by the New York Board of Education some years ago on the seashore at Coney Island in connection with a charitable institution. For this purpose the roofs of buildings, schoolyards, meadows, parks, and, as in New York, old ferryboats, have been utilized. It begins to be evident, however, that, sooner or later, the demand for open-air classes will become so great, that it will be necessary to construct our school buildings in such a manner that each room shall have at least one of the inclosing sides arranged to admit a practically unimpeded circulation of air. The most satisfactory arrangement thus far devised is the use of glass set in comparatively small frames, supported on pivots and operated by levers and gears, so that it may be placed at will in nearly a horizontal position, so that 95 per cent. of the lighting will also be air-admitting surface. A room with windows of this kind has been found in New York to be practically an open-air room. There can be no more economical use of a school building than to use it for restoring strength to the weak and health to the sick.

Suppose, then, we have a building constructed for the largest possible number of uses—a building with an assembly room, large indoor playgrounds, gymnasium, workshops, cooking-rooms, and with each classroom furnished with movable furniture—what are the activities, other than regular day school, that may profitably be undertaken?

First, there are evening schools. Evening schools, however, have not been economically managed. The attendance is almost invariably small—from 20 to 40 per cent. of the enrollment. The suggestion has been made—and I understand the experiment has been successfully tried—that a small deposit of money should be required from each student. I am inclined to think, however, that at least in the case of one large class of evening-school students—those who leave school at fourteen without having completed the elementary-school course—the evening school from eight to ten o'clock is not an efficient institution. No boy of these tender years should be

expected, after working all day, to give up his evenings to study. In my judgment, the state should retain its hold on each child until he completes at least the eight years' elementary course. If an employer takes into his service the child who leaves school with no proper equipment for fighting the battle of life in these days of dire competition, the state should see to it that the time required for giving him a moiety of that equipment should be taken, not out of the child's hours for rest and recreation, but out of the employer's hours for labor. I recommend, therefore, that classes be established from 7:00 to 9:00 A.M. and from 4:00 to 8:00 P.M. for working-boys and girls who did not complete the eight years' elementary-school course before going to work, and that our compulsory education laws be so amended as to make such a rule effective.

Another large class of evening-school students consists of adult foreigners who come to learn the English language. In New York City the foreign classes—running from the middle of October until the middle of April—have always been successful. This year, however, we are trying an experiment which bids fair to surpass all of our previous efforts along this line. During the summer months we have opened an evening school for foreigners. The attendance and enthusiasm of the students surpass all our anticipations. Should the attendance keep up during July and August, it is safe to say that this summer evening school is only the precursor of a great system of such schools—another means of economically using school buildings for the benefit of the largest possible number of persons.

In evening lectures to the people the school assembly room, or, in default of an assembly room, the large indoor playground, may be utilized from October until May. From May until cool weather comes again, no one who is not a teacher will endure a lecture. The experience of our New York lecture bureau is that the best lectures and lecturers are none too good for the plain working-people who frequent our assembly rooms; and that, while the lecture illustrated by the stereopticon or relieved by music is still the most popular, the scientific, the literary, and the historical lectures given in courses, in which the hearer may question the lecturer and which are accompanied by lists of books for reading, are attracting increasingly large audiences of intelligent students. Last season public lectures in the New York schools were delivered by six hundred and forty-one lecturers in one hundred and sixty-nine centers, to audiences aggregating 1,213,116 people.

Akin to the use of the assembly room or covered playground for lectures is their use for special celebrations. On February 12, 1909, the one hundredth anniversary of the birth of Abraham Lincoln was celebrated in New York, among other ways, by the delivery of forty-six lectures on Lincoln by prominent citizens in forty-six school buildings to audiences aggregating 65,249 people. On September 29, 1909, the three hundredth anniversary

of the discovery of the Hudson River by Henry Hudson, and the one hundredth anniversary of the successful application of steam to navigation by Robert Fulton, were celebrated by the delivery of seventy-six addresses by members of the teaching and supervising staff in seventy-six school buildings to audiences aggregating 71,055 people.

There is a large class of young working-people who do not attend evening school, and who, if some other provision is not made for them, drift into the saloons, dance halls, and moving-picture shows. For these we have opened in New York evening recreation centers. For these activities we utilize chiefly the indoor playgrounds but also many classrooms. The playground is divided into two parts by folding doors. One part is used for quiet games and reading. The other is used for gymnastics in the case of boys and folk dancing in the case of girls. Classrooms are assigned to debating, literary, and athletic clubs, whose members not only acquire information but learn how to speak in public and learn the necessity for order, decorum, and dignity in their deliberations. A recent addition to this activity is the establishment of study-rooms for children who have no proper place to study their lessons at home. A single story will suffice to show their usefulness. About a year ago a little girl was found to be extremely slow and backward and apparently quite unable to keep up with her grade in which she had already spent more than twice the allotted time. Investigation showed that she was a member of a large family in which English was not the family language and which occupied two rooms in a tenement house. For the poor child reading and speaking English at home were out of the question. A kindly friend led her to the study-room in the neighboring recreation center. There a skillful teacher showed her how to study and helped her over her difficulties. On the next promotion day she was promoted, and by last February she had progressed so rapidly that she was advanced two grades.

Another innovation in our evening recreation centers is the permission given to the young women in the girls' centers to invite their young men friends to a dance one evening each week. This experiment, conducted under the watchful eye of skilled supervisors, has been completely successful. Only by setting up legitimate attractions in our school buildings for the leisure hours of our young working-people, can we hope to keep them away from those city pleasures, run for profit, that lure our boys and girls to the very mouth of hell.

How shall we utilize our school buildings during the long summer vacation? In New York we have established vacation schools in the forenoon, and vacation playgrounds in the afternoon and evening. The vacation schools give instruction in drawing and carpentry, Venetian ironwork, chair-caning, and other arts for boys, and cooking, sewing, dressmaking, fancy work, and nursing for girls. Kindergartens are conducted for the little ones. Perhaps the most enthusiastic classes, however, are the con-

tinuation classes, intended for children who failed of promotion in the day schools in June.

Vacation playgrounds are established this year in two hundred and forty centers. About fifty of them are reserved for the tenement mothers and their babies. They are frequented by many of the real mothers and by thousands of the "little mothers." The roof playgrounds are thronged every night by children who eagerly climb five or six long flights of stairs to escape from the heat and the fetid odors of the street to listen to the music of a band or to dance and sing to their hearts' content in the cooler, purer air of the roof. Last summer the average attendance in these playgrounds was over 110,000 per day.

Such are the out-of-school activities conducted by the board of education at public expense in public-school premises in Greater New York. What other activities might be conducted to utilize these premises to the fullest extent and for the benefit of the largest possible number of people? I believe the following would be successful:

1. Each high school should be kept open practically all summer for the benefit of those students who failed of promotion in June, and of those who desire to complete the course in less than the prescribed four years. Cleveland has set us an excellent example by keeping her technical high school open the year round.

2. Every school playground and gymnasium, indoors and out-of-doors, should be kept open every afternoon thruout the year under the direction of skilled attendants.

3. Every workshop and cooking-room should be open for instruction each school-day afternoon and on Saturday morning. Only in this way can sufficient eye and hand training be given to all the boys and girls who need it. The attempt now advocated in some quarters to separate manual training from industrial training will prove a dismal failure. Manual training is the legitimate introduction to learning a trade. It is only thru manual training that we are able to discover those who have aptitudes for mechanical pursuits.

In conclusion, there are two conditions which, I believe, experience has demonstrated are essential to the success of any activities undertaken in school premises outside of school hours:

1. The activities should be under the direction of the school authorities and should be supported at public expense. No other agency has the means to conduct them on a sufficiently large scale. No other agency has the staying power to conduct necessary experiments over a series of years in order to determine a policy. No other agency has the power to secure the essential co-operation of the day-school staff with those responsible for the outside work. No other agency is so likely to keep the playgrounds clear of their most insidious foe—political influence in the appointment of the directors.

2. It is not buildings or equipment that make a playground successful, but the persons in charge. If the director and his assistants do not sympathize with children, if they are not resourceful and inventive, if they cannot play all children's games and guide children in gymnastics and

athletics, if they have not the executive ability to vary the activities, so that physical exertion, repose, and recreative work have their proper time and rotation, the playground, no matter what its appointments or resources, will be a comparative failure. City children must be taught how to play.

As a corollary to the second condition it follows that all normal schools and training schools for teachers should instruct our future teachers in the teaching of gymnastics, athletics, and games.

DISCUSSION

Lewis H. Jones, president, State Normal School, Ypsilanti, Mich.—The very able and exhaustive paper which has just been read on "The Economic Use of Education Plants" seems to have covered the ground so well that one can do little more than agree to its suggestions and conclusions. Where such ample appropriations are made for incidental work as seems to be the case in New York City, the incidental uses of a school building become almost equal in value to the regular day-school work. This does not, however, apply to smaller places or to rural schools, and the American teacher has before him the problem of convincing the average taxpayer that it would be infinitely more economical for him to pay into the treasury more money to secure larger benefits from the school plants now in existence. Personally, I am very sorry that teachers and others have the habit of exploiting the large total sums expended in education in this country without any adequate perspective, making it seem to the average taxpayer as if his whole burden of taxes were for public education. As a matter of fact, the amount now paid for all phases of public education in this country is a mere trifle as compared with the most incidental personal expenses of the inhabitants. We need to teach people to pay taxes for school purposes willingly, and to increase the amount until it shall have some showing of adequacy for the work that needs to be done. Instead of talking about the large amount expended for education, let us show how meager it is compared with what should be given. Let us show the extravagance of the common personal habits of the men who complain of their tax-rate. Especially is a course like this necessary for people in villages and rural districts. The aggregate amounts paid look large, but persons need to be shown that the individual expense of the particular taxpayer is the merest trifle. Let us encourage a more generous expenditure instead of a more parsimonious one so commonly agitated in the school district. Economy and parsimony are very different affairs. Even tho a plant be used economically, more money must be expended instead of less, and if a parsimonious habit be allowed to form itself and be allowed to control expenditures in education, school plants will lie unused, when a larger expenditure would secure from them greater results in the general education of the people.

Robert J. Aley, state superintendent of schools, Indianapolis, Ind.—Indiana is attempting to have her schoolhouses used for the good of all the people. Her consolidated-rural-school buildings are made community centers. Lecture courses, farmers' institutes, mothers' meetings, spelling contests, literary societies, debates, and athletic contests are some of the activities that center in and about these buildings. In the buildings of many of our towns and cities similar occurrences are frequent. In some of the city buildings night schools for adults are held. The people generally are growing to feel that the school plants are theirs and that they are entitled to use them for instruction, recreation, and social purposes.

J. Stanley Brown, Joliet Township High School, Joliet, Ill.—In many communities the school building is looked upon as an institution so divorced from every use except the teaching of the boys and the girls that it has failed almost utterly to perform its

greater function in community service by forming a common place of assembly for the discussion of public questions or for public entertainment, or for other legitimate and helpful service which a school building built by the taxes of all the people ought to be expected to perform.

It seems that there is no good reason for our failure to look upon the public-school building as in some sense a business institution in which there have been invested certain sums of money and from which the community has a right to expect a fair business return. It is safe to assume that this return could not be made from an ordinary commercial institution if that institution were allowed to remain idle for about 60 per cent. of the time, and it is in the interest of use for concerts, for lectures, for dramatic performances, for the discussion of public questions, etc., that we think that it may be made to perform a much larger public service than it has yet done.

A commercial institution of any kind used for the small amount of time which the public-school building is used would unquestionably go out of business in a very short time. And now that education has assumed a somewhat broader view than it once had, and is willingly or unwillingly assuming some of the duties of the home and some of the functions heretofore performed by the church, it seems only reasonable that the school building be available after the close of the legal school day for late afternoon and evening use.

There seems to be defense for such a proposition in the fact that we have emphasized social efficiency in the training of the child and yet there is only a small opportunity to develop this quality of social efficiency, unless our meetings with the child are extended beyond the ordinary school day.

In the interest of a real democratic institution, it is good for the people of a community to feel that they may come together in this institution built for all, and have an opportunity to express their opinions without feeling that they are trespassing upon the rights of private ownership, because they are meeting in a building or an assembly hall not owned by an individual or a corporation.

W. T. Carrington, president of State Normal School, Springfield, Mo.—I find myself in accord with Dr. Maxwell's paper, and the discussions. Little has been left to discuss. I wish especially to indorse Dr. Jones's definition of "economics." Larger equipment, as a rule, means a more economic equipment. In the construction and the furnishing of every type of school buildings, the consideration should be first of all given to the main uses to which they are put, but we must at no time lose sight of the fact that the whole child is at school, and that the school is to administer to the highest and best welfare of the community. I also indorse the position that normal schools have grave responsibilities and fine opportunities in setting examples and in exerting wide influence in bringing about an extensive use of all school buildings and school furnishings; in promoting social, civic, and religious culture. These state institutions in Missouri are doing very much to solve the problem. The newest and latest school buildings have been constructed and furnished very much as described in Dr. Maxwell's paper. These vocational schools are teaching that the public school, thru its pupils, must be the social, civic, and religious center of the community, and that the teacher should be an important factor in all these activities.

Please note that I have included in my statement, that it must be a religious center. I am not in sympathy with that sentiment sometimes expressed from the pulpit, that the public school cannot and should not teach religion. It seems to me that worship and devotion are essential elements in character-formation, and that the character is largely determined by what we worship, and the ideals to which we are devoted. If this be true, the public school must teach religion and provide for religious activities. The normal school with which I am associated puts this first, and emphasizes ways and means of promoting large Y.M.C.A. and Y.W.C.A. organizations. Thru these organizations,

the social, civic, literary, and athletic activities of the school are controlled. This institution believes that in this way leaders in all such activities are teaching in a most emphatic way the economic use of educational plants.

Arthur H. Chamberlain, Pasadena, Cal.—In the business and commercial world certain maxims or principles are universally in force. Investments should yield the greatest possible return. To do this implies: (1) The minimum of equipment for the maximum of return; (2) the use of the equipment or investment to its maximum of capacity with constant regard to wear and tear; (3) the use of the investment, equipment, or plant all the working-hours of the day, and all the days of the year.

If, then, good business in the world of commerce and industry demands this, it would seem that good business in the educational world implies the same. Any educational plant that meets these requirements must be so selected as to provide for the largest number of students with the least possible financial outlay; must in simplicity and quality meet the demands of the world; must be in use not only the five school days, but on Saturdays and during the usual three vacation months.

Any manufacturing or industrial plant that is idle one day out of six, or three months out of twelve, yields but an inadequate and partial return upon investment. In a word, our educational plants, to give the greatest good to the greatest number, should be in use on Saturday for those who are able or desire to complete a given portion of work in the shortest possible time. They should be in use in the evenings for continuation classes for those students now in one or another wage-earning capacity, but who desire to perfect themselves more fully, looking toward advancement. They should be in session during the summer months, thus providing constant schooling for those who choose to avail themselves of such privilege; and to make it possible for those outside to come in, thus keeping children off the street.

This does not imply that the same set of teachers should be at work constantly. It would help to do away with the idea so prevalent among the American people—that nine months should be devoted to constant rush and three to absolute rest. It would mean better business administration of educational plants, and under proper conditions the equipment would last as long as under the present arrangement.

A community would more readily bond itself for adequate school facilities could it know that the return upon its investment would, as in the business world, be constant; that grounds, buildings, machines, libraries, equipment, were not lying idle one hundred and thirty-six days of the three hundred and thirteen working days in the year, that as the school is the place in which to live, not simply a place in which to learn to live, so the school plant is a constant rather than an intermittent factor in the life of the individual.

Maximilian P. E. Groszmann, Plainfield, N.J.—The splendid and comprehensive paper of Superintendent Maxwell points the way in the right direction. But this way is not free from obstacles, and in order to accomplish our end, we must face these obstacles squarely. The question has been asked, "What objections can be raised to thus making the schoolhouse a social center?" I will mention two. One is a health objection. We are trying to introduce medical inspection of school children so as to protect them from infection and contagion. If we open the doors of the schoolhouses wide to large congregations of people, how can we prevent infection and contagion from entering into the buildings and rooms where our children are to spend the best part of their days, and which we are trying to safeguard hygienically with so much anxiety? Can we devise and carry out methods of control which would reach out to these gatherings?

The second objection is this: We are endeavoring to make the schoolhouse a home for the children. Even the assembly hall of each school, its corridors and passageways, are often characteristic, in their appointments, of the spirit of the school as a whole. And certainly every classroom over which a good teacher presides will express, in its decora-

tions, pictures, flowers, exhibition of work, etc., the genius of that individual class whose home the room is. If such a building, or such a room, is used by others, is there not fear that the integrity of the school home will be invaded and desecrated?

I feel that these objections are serious ones and that I do not know how to answer them even tho I am thoroly in favor of the idea of developing the public schoolhouse into a social and educational center.

Miss Julia Richman, district superintendent of city schools, New York, N.Y.—There is nothing that I can contribute to this discussion, but there is one question in connection with this subject which I desire to bring before the Council—a question which some day, if not today, the Council will be called upon to answer. I place the question before you, not in a controversial spirit, not for the purpose of throwing an obstacle in the way of developing to the full the social opportunities of the school plant, not to inject a sectarian or denominational issue, and certainly not to throw a theological firebrand into the discussion, but this is the question that the Council of Education of the National Education Association must one day be prepared to answer: What must be the attitude of school boards and school authorities generally on the question of the social use of the school plant on Sundays? We must remember that the greatest need for the "open school" is in congested districts; that the populace of the congested districts, in the main, has come from continental Europe, bringing with them the standards of those countries; that many of these people, altho Christians, have never known, nor can they understand, the restrictions of a Puritan Sabbath.

It seems to me that here in New England this Council must meet and face this issue, and must be prepared to answer the question: Shall we advocate the "open school" on Sundays?

NOTE

Three papers and following discussions read before the Council, as noted in the Secretary's minutes, on the Report of the Committee on Place of Industries in Public Education, were transferred from the papers and discussions of the Council to follow the full report of this committee, which will appear in the proceedings of Department of Manual Training and Art.

REPORT ON EDUCATIONAL PROGRESS DURING THE YEAR

FRANK STRONG, CHANCELLOR, UNIVERSITY OF KANSAS
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A sketch of the educational progress of the year would include, among other things, the following:

First.—There have been distinct criticism and somewhat acrimonious discussion of the American college, its methods, and its results. The outcome of this criticism and discussion has been to eliminate to some degree the lack of definiteness in the American college, and to strengthen its mental and moral tone. One of the most significant happenings of the year was the culmination of the movement against the free-elective system in the substitution by the great exponent of the elective system itself of more definite requirements, on the basis that the student ought to know something of every great branch of knowledge and be well trained in some single

field of knowledge. There has been in general in colleges and universities a trend toward sounder scholarship, toward a sounder and cleaner athletic life, and toward a lessening of the outside interests that interfere with scholarly pursuits. In connection with this, the past year especially seems to have shown that the type of university of ten years ago has passed away never to return. The present university is much more composite in its make-up and addresses itself to a multitude of interests to which little attention was given by university men a decade ago. This is especially true of the state university, which is rapidly becoming the scientific arm of the state to do whatever the commonwealth in its organized capacity may undertake for the health of its citizens, in the scientific development of its resources, in the care and development of its penal institutions, in the geological and biological surveys of the state, and in many other ways. The effect of this movement is felt even by the oldest foundations in our country, and they too are finding it necessary to adjust themselves to the industrial and social needs of the times. The permanent effect of this movement upon the purely scholarship side of our universities cannot be accurately set out at this time. The experience of institutions engaged in this work seems to show that in the end the scholarship side will be stimulated by the enlargement of the scope of the institution.

But while one must recognize fully that a university is to some extent an industrial institution, and that it must have a definite money-value to the community that it serves, yet one must respectfully protest against the assumption that an institution of higher learning must be judged wholly or largely by the definite money-value that issues directly from its work. This is to assume the commercial standard, the materialistic attitude which is so prevalent in our day and which is the direct foe of what is best in our civic life and in our education. The best, most valuable product of a university can never be measured in money-value, and if an institution should degrade itself to the point where it should do nothing except that which is measurable in dollars and cents, it would contribute largely to the downfall of the civilization that it is meant to uphold. The truly practical education is that which issues in high character, sound intellectual and spiritual life, high civic conduct, and an intelligent and honorable citizenship. According to this true standard of measurement the college of liberal arts and sciences—the American college—which has done more for true democracy than any other educational force that ever existed in the world, is the most valuable institution which our civilization possesses and makes the greatest return for the money that is spent upon it.

Second.—Public high schools have also come in for their share of criticism and discussion. This discussion has concerned the courses of study and the quality of the work done. The result has been an attempt to relate the courses of study more definitely to the needs of the times without sacrificing the true scholarship so necessary to the best training. High schools have

been rightly forced to consider their relation to the whole community, to adjust themselves to the great class of students whose life must be one of physical or manual labor, to consider themselves first of all as a general institution with a scope far wider than the preparation of boys and girls for college. All this has involved the relation of the high school to the college or university, and the criticism has been made that the college or university has sought arbitrarily to confine the high school to the limited field represented by college-entrance requirements. In some quarters this criticism is just; in general it is unjust, and the relation of the high school to the college we may very safely assume will be taken care of by the interplay between the two institutions. For the province of the college or university in its relation to the high school has come to be more and more to insist that the high-school course shall be made up on its merits as a secondary-school course; that no university credit shall be given for any work of the high school of whatever kind, until it conforms to the best teaching standards, and that when a course of study is so made on its merits and its work conforms to the best teaching standards, such work should be received for entrance to the college or university. It is also becoming more and more the province of the college or university to provide the educational stimulus and inspiration for the whole educational system; to maintain the highest scholarship standards and to assist the high school in the maintaining of such standards; to combat, both in the college and the high school, the immensely strong tendency of the times toward materialism and the worship of the so-called practical; to help the high school to convince the community it serves that to direct all its best energies toward the work which bears the dollar mark is to fly in the face of the experience of many centuries and weaken the foundation of the true culture and scholarship which have so much to do with the real soundness of a high civilization.

Third.—In the great body of elementary schools advancement during the year has taken the form of attempted elimination of waste. Numerous scientific investigations of school problems undertaken by the teachers themselves have indicated a tendency toward self-criticism on the part of the schools, toward examination of educational methods in view of results obtained. The cause of industrial education has received distinct impetus, and it is becoming more and more evident that industrial education must be a part of the regular public-school system; that the state should, thru trade schools, provide facilities for education in industries, handicraft, and the like. The relation of the elementary schools, therefore, to a considerable body of students who must look to trades for a living has received more adequate attention. Vocational training in the public schools and in continuation schools has developed in many places, and there is growing up a consensus of educational conviction that while vocational work and industrial training are necessary for a large number of children less favored in fortune than their fellows, no individual teacher or administrator should

have the power to dictate the destiny of individual children, but that vocational work must be so adjusted to the whole system of public education that no student, however humble his origin, shall in any way be deterred from passing into the very highest grades of the educational system.

The problem of individual differences is being recognized by the school authorities in the organization and administration of our education. This, coupled with the tendency in normal schools and university schools of education to add to the usual professional preparation for teachers equipment in matters of juvenile ethics, personal and social hygiene, sanitation, and preventive medicine, seems to open a new era in the development of the grammar schools of the country.

Fourth.—There has further developed a strong feeling that moral and religious training is after all the most important thing in education; that men highly trained, but without sound moral life, are a menace to the community. Notable advances in the study of the problem of religious education in schools have been made. Notable legislation has been enacted in many states pertaining to hygienic and sanitary conditions in our schools. We as a people are coming to the conclusion that our educational system should be reorganized so far as is necessary, on a sound, conservative basis that shall exclude the frenzies of extremists and correct, not emphasize, the weaknesses of the age. The feeling that our democracy must find its support more and more in the character and quality of its public education; that a new type of school and university must slowly emerge which shall be so adjusted to sound scholarship and the economic needs of the times as greatly to increase the efficiency of our population and add to the happiness of our people. And perhaps the most significant of all is the growing tendency toward the completion in all our states of the state system of public education. Signs of this are not wanting in the oldest states of the Union, and it will not be surprising if some of the older foundations are made state universities, or if, in some other way, the public system of education is completed by the establishment of state higher education.

Fifth.—The year has developed in a slight measure a danger to state universities. There are some indications that politics may, unless guarded against, play a part in the spirit and policies of state institutions. And here I do not refer to the ordinary partisan politics which in the early days of almost all state universities was a menace to the growth of these institutions. The new danger comes from the political changes that seem to be taking place among us; from the new questions, largely social and economic, that are obtruding themselves upon our American politics. It arises from the fact that upheavals and reformations always bring with them strife and bitterness; that they often give rise to persons to whom it appears that everything else, even our universities, should be sacrificed to forward the interests of one side or another of the controversy. The state universities themselves have had no small part in arousing the new moral ideals, the

new democratic spirit upon which the struggle for a sounder and finer national life is based. The state university is therefore in the minds of some to be held in a measure responsible. It was truly said in the opening address before the Fourteenth Annual Meeting of the National Association of State Universities that "the supreme test [of the state university] is whether the people of the state will on the one hand tax themselves to support it, and on the other impose upon themselves a self-denying ordinance to leave it severely alone, so that it may select its own members by the application of its own intellectual standards and the members thus chosen may be absolutely free to investigate, to teach, and to publish whatever they believe to be the truth." This new danger is affecting but few state institutions, and in them it is at present no serious menace, and there is every reason to believe that with care in administration, with serious attention to the interests of the great body of the people as a whole, the state university, by avoiding entangling alliances, will remain as it is at the present time—one of the freest educational agents in America for the attempted solution of the many perplexing social and economic questions. For, after all, a serious-minded people, whatever extremists may say and do, will not long allow the institution which they support by voluntary taxation, and to which they send their sons and daughters, to be anything other than a free institution for the development of truth without fear or favor.

A second danger, which affects state universities and those upon a private foundation alike, arises from the powerful standardizing agencies that have made themselves felt more than ever during the past year. It is easy to go too far in attempts at standardizing education, for there is nothing so deadening as complete uniformity in the development of our schools. In addition, as has been elsewhere pointed out, some of the great standardizing agencies, in themselves extremely powerful, are essentially beyond public control, and outside of the administration of the institutions which they undertake to standardize; nor are they co-operative agencies which arise naturally from the interplay among educational institutions themselves. Their foundation is great wealth. Necessarily they look at education to some degree from that point of view. They desire immediate results and are somewhat impatient at the slow evolutionary process by which permanent educational results are achieved. Arbitrary action is therefore easy and, unless great self-restraint is exercised, almost inevitable. But no one should for a moment fail to recognize the great value of these agencies in our education. They are a sign of the tremendous importance of education in our country and the value that is placed upon it. The danger, which is a real one, may easily be obviated, for there is every reason to believe that both donors and administrators have the most sincere and disinterested purpose in what they are undertaking to do. We may therefore confidently expect that the outcome of experience will be the adjustment of the admin-

istration of all standardizing agencies in such fashion that all educational powers shall work together for the highest good of American education.

TOPIC: PHYSICAL EDUCATION

I. PHYSICAL EDUCATION IN ITS VARIOUS PHASES—ELEMENTARY, SECONDARY, AND HIGHER

D. A. SARGENT, M.D., DIRECTOR OF HEMENWAY GYMNASIUM, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

This is a large subject to cover in a twenty-minute paper, but I hope to be able to consider some of the various phases of physical education in the elementary and secondary schools, and to suggest some ways in which the college may further its own aims by improving the physical condition of those who come to it. My paper will be confined to the physical education of boys, since that of girls is considered in another department.

Since the average man as we see him today is the resultant of all the varied physical activities of the past, the problem before us is how to preserve the development already attained, and to add still further to man's possible perfectibility. It is a recognized fact that the physical activities which, in the past, made for this attainment have been superseded by the inventions of machinery—the use of steam, electricity, etc., taking the place of muscular effort. Moreover, the concentration of population in large cities, and the great multiplication of human interests, add to the complexity of the problem. These social and economic changes have brought about a minute division of labor and greatly modified the developmental value of man's occupations, and the healthfulness of the environment in which he lives and works.

The complications growing out of our present condition of affairs are forcing the problems of the farm, the shop, the factory, and the home upon the schools and colleges, which must be prepared to meet them. What part should physical education play in this important movement? Assuming that there is a mental and a physical side to education, altho they are mutually dependent, the larger part of the elementary-school life should be given over to physical education. Healthy children of six or seven years of age when left to themselves will expend an amount of energy in their daily physical activities equivalent to that required in a continuous walk of nine or ten miles. This amount of muscular movement is necessary for the development of the normal child of the elementary-school age. The best kind of exercises for children of this age are those free and spontaneous movements of trunk and limbs which they naturally enjoy and indulge in—such as bending, twisting, rolling, jumping, running, balancing, tumbling, and climbing. These simple exercises should be frequently supplemented by more formal movements in imitation of primitive occupations, such as

reaping, mowing, rowing, sawing, etc. Then the dramatic plays, such as Indians, cowboys, and soldiers, furnish a large amount of physical activity, as do the games of hunting, shooting, etc. The so-called "constructive" plays, the making of such things as huts and forts, and the digging of caves and wells, all require considerable physical as well as mental effort and are in a way highly educative. In order to produce the best physiological results, the periods of physical activity should be frequently interspersed with periods of rest. And frequently the best kind of rest for a normal child is a change of organic activity. Prolonged attention or prolonged maintenance of bodily positions, either sitting or standing, should never be expected or required. In view of the narrowing and deforming effect of many modern occupations—due to the limited employment of the mental and physical faculties—I believe that it is of the utmost importance that children of both sexes, as early as eight to ten years of age, should be given a series of more or less formal gymnastics as means of physical improvement to fit them for future labor. This is necessary not only to correct the evil effects of posture, etc., in the schoolroom, but also to develop those great fundamental groups of muscles on the back, shoulders, and chest which are so little used in school life and in modern occupations. There is no better way of developing these important parts of the body than by the so-called heavy gymnastics, and the time to begin the practice of these exercises is when children delight to climb and hang and swing, and do so with exceptional agility. To postpone these exercises to a later period, on the ground that children from eight to ten are not strong enough to take them, is a great mistake, and one for which similar work attempted later in life seldom compensates. In speaking of the elementary phases of physical education, I have intentionally confined myself to a consideration of the large, simple movements of the trunk and limbs, because it has been found that the development of these parts at this time of life is of fundamental importance.

This is an age, however, extremely susceptible to sensory and mental impressions; thus there will come to them naturally all the knowledge that children absorb thru observation, imitation, and experimentation with their toys, plays, and physical activities. Greater efforts should be made to teach, in the same way, the elements of language, music, drawing, arithmetic, geography, and some of the sciences.

The secondary-school period, from ten to eighteen years of age, is the most important of all for physical education. These eight years are accompanied by many mental and physical changes and no simple series of exercises will meet the demands of both the youngest and oldest of this group. We have seen that normal children of the elementary-school age, like young animals, delight in activity for its own sake. But at the beginning of the secondary-school age "there is a transition in interest from the control of the body and activity for its own sake, to interest in the control of environment and activity for the end's sake." This transition of interest may be a

source of mental, moral, and physical improvement, or it may usher in a train of evils. The changes that are taking place in the nervous system at this time make it necessary to modify the methods of physical education to meet them. Exercises requiring fine muscular co-ordinations, the development of keen muscular sense, and nice powers of bodily adjustment may well be introduced now. It is the period most favorable for laying the foundations for future skill and expertness in gymnastics and athletic sports. It is also the period when the neuro-muscular habits are formed and fixed, and when the discipline of the daily drill counts for so much; when conduct is molded and character fixed. There is no better way of accomplishing these high aims than thru organized play, educative gymnastics, athletic sports, and competitive games. The value of graded plays and games has been so thoroly considered elsewhere[1] that I will not linger here, but will go on to certain phases of physical education which, it seems to me, are not so well understood, altho very important.

In order that physical movements may be made educative it is of vital importance that they be executed correctly and according to some ideal standards. The mere careless effort of bodily activity may be of some hygienic value, but such efforts are not strictly educative.

This is the school age when boys should learn to run, jump, swim, row, box, fence, etc., as individual accomplishments. They must not only practice them assiduously, but they must know how to expend, for the best results, the required strength, speed, skill, and precision. It is not expected that any one youth shall excel in all these sports, but I wish to emphasize the fact that an important end to be striven for in the practice of these physical accomplishments should be grace, poise, accuracy, order, and beauty of form and execution. This applies equally well to various kinds of light and heavy gymnastics. The movements with Indian clubs and wooden wands, the exercises on the rings and bars, lend themselves to the execution of graceful, pleasing motions requiring perfection of structure and harmony of function. The same laws as to beauty, order, harmony, and rhythm apply to these modes of expression thru activity as well as to other arts, and their practice depends upon the same mental processes and ethical principles. If a boy should become an expert in any athletic or gymnastic performance he would not only conform to the laws of animal mechanics, but to the standards of applied ethics and æsthetics as well. Apply this principle to all of the boy's physical activities, and it will be seen that there is a fertile field here for mental and moral improvement. Boxing, wrestling, football, etc., have served a useful purpose by fostering the love for such sports as test heroism, manliness, and courage; while many of the feats performed on the gymnasium apparatus call for skill, daring, and presence of mind. An arduous feat should act as a spur to a boy of the

[1] Johnson, *Education by Plays and Games;* Bancroft, *Games for the Playground, Home, School and Gymnasium;* Angell, *Play.*

right spirit; and the voluntary self-discipline of conquering a difficulty thru long and persistent efforts, affords a preparation for the struggles of life. Such efforts give all athletic records their true value. The physical education of the last four years of the secondary-school course should consist of gymnastic drills, field games, group contests, and athletic sports. By the age of fourteen or fifteen the boy, if properly trained, will have acquired full use of his muscles, taken on some individual accomplishments, and be prepared to enter athletic contests with some restrictions and modifications. I say advisedly "with some restrictions," for when preparatory-school boys enter the field of competitive athletics they incur some physical risks and moral dangers. Practice for exhibitions, contests in gymnastics, or trials for the best all-round performance in several kinds of sports, have within them great possibilities of physical, mental, and moral improvement. But a contest that puts a premium on jumping the greatest height, or lifting the heaviest weight, puts a premium on a high degree of specialization and on the acquirement of bodily conditions which are more or less abnormal. Games like baseball, basket-ball, or football, where players may advance their side by injuring opposing players, are not games to be encouraged unless the rules are modified to prevent such foul tactics. For this reason these sports have constantly to be regulated to eliminate the evils that arise and to preserve the good that is in them.

The question is always arising among school principals and physical directors as to whether something may not be done so that the weaker portion of the students, as well as the physically strong, may enjoy the benefits of these athletic contests. A method has been worked out, under the name of group contests, which furnishes the best solution yet suggested for the problem. This method consists of dividing the pupils into divisions, clubs, or groups, each of which shall include boys of various athletic ability—the short and the tall, the strong and the weak, the slow and the alert. Each boy competes in the several events, and whatever he does will be added to the total score of his group. Then if his group wins, he will have contributed something to the victory and will consequently have a right to share in the honor of it. The tendency of this method is to bring about a spirit of mutual helpfulness and joyous co-operation. The advisability of schoolboys under eighteen engaging in boat races, long runs, tug-of-war contests, and violent athletic games should be determined by a physico-medical examination of each individual, and a full knowledge on the part of the authorities of the nature and length of the contests under consideration. These prolonged athletic contests bring the respiratory and circulatory organs into great activity and are especially valuable for this reason. But as heart, lungs, brain, stomach, etc., do not usually complete their growth until after the twenty-second year it is very important that these organs are not overtaxed in early youth. During these years, the good that may be done to a boy is so great, and the injury often so irre-

parable, that it is a matter of anxious solicitude that the best supervision and instruction in physical education be secured for the secondary schools.

With such a preparation as outlined, physical education in colleges would be much simplified. Young men would enter college trained in body as well as mind. They would be familiar with the various individual sports, have learned to play the different athletic games and become conversant with the regulations governing contests. Under these circumstances many of the puzzling questions which now vex the college faculties would not arise. Men would choose their favorite sports as they now do their favorite studies. The embarrassment felt by many college men in taking up a new exercise or playing a new game arises from the fact that they have had no previous training. They have postponed learning new exercises until too late and now find themselves with inadequate muscular control and no staying power. This physical deficiency makes them defer beginning training and many of them never attend the gymnasium or frequent the athletic field. Altho leading educators thruout the land, upheld by the researches of the psycho-physiological laboratories, attest to the unity that exists between the education of the mind and that of the body, it is difficult to realize a practical co-operation between the academic and physical departments in our colleges. If a young man attends a course of lectures on physiology and hygiene, he receives credit for his efforts even if he spends much of his time in pursuits that are injurious to his health. But if he attends the gymnasium or joins some athletic team, and applies the principles of hygiene, he receives no academic credit. The present need is for some academic method by which health and self-control may be measured and given credit in judging the mental efficiency of the college man. The college would render a service by requiring entrance examinations that would determine a boy's potential ability apart from mere book learning. These requirements should consist of examinations to determine general condition of health and muscular control, strength tests, and trials of physical efficiency. Such requirements would give new meaning to the physical work in the preparatory schools, putting their curricula in accord with the impulses of the child and combining the constructive forces of brain and body building. Then the work of physical training and development would be largely done in the preparatory schools during the formative period of a boy's life, and when he arrived at college his physical work would be recreative rather than developmental. He would have learned the value of keeping fit for his mental work, and with the vigor and energy that come with prime physical condition he would enter his intellectual pursuits with greater zeal. Simply to advise college men to obey the laws of health, without adjusting the system of credits to recognize such obedience, puts a premium on neglecting this advice. Some colleges require those students who compete in athletics to attain a certain grade in their studies; so students who compete for scholarship should attain a certain standard of physical efficiency. An athletic

requirement is one of the distinguishing characteristics of the Cecil Rhodes Scholarships, and marks the beginning of a movement which is to bring the college and the world into more sympathetic relationships, thru the practical efficiency acquired by a sound physical education.

II. PHYSICAL EDUCATION FROM THE STANDPOINT OF HEALTH

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The Need of General Exercise

The limitations of the topic are definite. I am to consider physical education, or speaking more concretely, muscular exercise, from the standpoint of physical health. Exercise of the body is not here considered as a curative agent in disease—for example, in the strengthening of a weak heart—but simply as one of the measures which is essential to wholesome living.

Health consists in general in the wholesome and balanced performance of the functions of circulation, respiration, digestion, excretion, and the regulation of body temperature. That is not to say that there are no other aspects of health, but in the main these are the physiological processes that are most directly affected by muscular exercise. The kinds of muscular exercise which induce an individual to breathe most deeply, which increase the circulation of blood, which stimulate digestion and the processes of excretion, consist in the use of the large muscles of the body. To get the maximum effect of exercise, these large muscles must be contracted moderately many times. We all know the healthful effects of rapid walking, of gentle running, of mountain climbing, canoeing, rowing, the more vigorous dances, tennis playing, and similar exercises.

Exercises that involve merely the activity of the smaller muscle groups do not appear to have any particular effect upon the body. Thus exercises involving the use of the arms alone, or of the hands and forearms, as in typewriting, playing the violin, sewing, are relatively useless from the standpoint of health, altho they may have high educational value.

The principle back of these different body movements is that exercise affects the fundamental physiological processes of the body directly in proportion to the number of foot-pounds of energy expended during the work. The small muscles of the body, just because they are small, are not able to expend such quantities of energy as to make increased demands upon the body for food, for air, for more rapid circulation. For this reason the more general exercises, those working the larger muscles, have a more vigorous effect upon body health.

Gymnastics

This general exercise of the body may be attained by means of gymnastics. The individual may accomplish all these results alone in his room, by

bending the body in various directions, by stooping and rising, and by many other physical movements. The fundamental difficulty of getting healthful exercise by these means is that exercise done alone is uninteresting, and the probability of any of us systematically keeping up such exercise thruout the weeks and months and years of life is exceedingly remote. It is, accordingly, a matter of first importance to consider how the individual may have his exercise in a form that he will find enjoyable, so that he will carry it on because of the pleasure that he finds in doing it.

Play and Athletics

Small children, if they can have the use of sand-piles, swings, see-saws, merry-go-rounds, slides, and ladders, are sufficiently provided for. They will, with such facilities, take all the muscular exercise of both the large and small muscles of the body necessary to their wholesome growth and development. The school age, however, when for five hours daily the child is confined indoors and much of this time is spent seated before the school desk, presents a set of conditions which must be met by specially devised exercises—gymnastics—which shall correct the direct effects of the school desk. Formal gymnastics may be so used that they will give a sufficient amount of exercise to meet all the needs of the growing body; but in this connection we must not forget that one of the great functions of the school is to prepare the individual for subsequent independent life, and that during the school period we are to establish, if possible, habits of wholesome living which are interesting and which will be feasible under the future conditions in which the individual is obliged to live. We observe as a matter of general experience that relatively few individuals keep up thruout life the formal gymnastics which they learned so faithfully during their school days. Hence it is incumbent upon us to discover how we may during the school period develop in the young habits which touch them so profoundly that they will continue them during later years. Here we are led to examine the possibilities of athletic sports and folk dances.

In relatively few educational institutions in America have athletics been given any adequate consideration from the standpoint of health. In practically all of our educational institutions—and this includes most of our colleges and universities, as well as high schools and many grammar schools—we have installed systems of athletics which aim at providing entertainment for the spectators, rather than benefit to the performers. The athletic sports which select those students best endowed by nature and education, and then train them to their highest point of efficiency, are not meeting the physical-education needs of the great body of pupils in any respect. The pupils engaged in these athletics need physical education least of any students in the institution, and those who have most need of the exercise derived from athletics remain unprovided for. In many institutions the non-athletes are excluded from the athletic fields: the latter are needed for the

training of the athletic teams which are to represent the school. There is no greater blunder being made in the educational world than that of imagining that competitive athletics fulfill the need of physical education of the average student. The only way in which athletics can legitimately be fitted into the educational program of an institution of learning is (1) by providing athletic facilities that will accommodate *all* the students of the institution; and (2) by providing such instruction and supervision of athletics as are given to other academic subjects.

Fortunately we have a few private schools and one or two universities that are already successfully carrying out such a program. In these institutions a definite portion of practically every day is given up to outdoor exercises. Every student in these institutions under sympathetic instruction forms habits of interesting, wholesome outdoor exercise of a type which he can to a greater or less extent carry on thruout life. The time is rapidly coming when the establishment of vigorous health will be regarded as the first obligation that rests upon all institutions having to do with the care of the young, for nothing can take its place in practical living. What can be accomplished along these lines is illustrated by the work done at such high schools as that at Springfield, Mass., at such private schools as those of St. Paul's and Lawrenceville, and at such universities as the State University of Missouri.

Exercise and Modern Life

But the great mass of us are not found in school. There is also an increasing tendency among human kind to live in cities. Yet the need of the man or woman—whether he works in the factory or at the desk; whether she works in the home or the store—is for some more or less regular, gentle exercise taken out of doors under enjoyable conditions. The time has passed when this can be done by the individual alone. It is true, there are some individuals whose wills are sufficiently strong, so that even under the adverse conditions of city life they will persist in taking solitary walks and who will in other ways seek outdoor exercise. But these are the rare exceptions. The need of exercise, however, is a constant if not an increasing one. Hence there rests upon the *community* the obligation to provide spaces for recreation, to provide facilities for games and sports, and to provide persons who shall organize, promote, and advertise these facilities as efficiently as any commercial body is organized, promoted, and advertised by those who are especially trained in these directions.

In former days the librarian was a person who took care of books in a library, who protected them from abuse. In general he was more pleased to have them remain on the shelves than to have them in circulation; for when they were on the shelves they were safe, but when they were in use they would inevitably be injured. The modern librarian sees his success in empty shelves, and in keeping the books in extensive and rapid circulation. The wear and tear on the books he considers inevitable and necessary.

That is, the modern librarian is an organizer, a promoter, an advertiser. If wholesome bodily exercise is to be generally carried on by city people, we need to have done for our parks, our playgrounds, our golf courses, our available camping spaces and other facilities of this kind just what we are doing for our libraries: we need to organize, promote, advertise them.

It is necessary that the facilities be *adequate*. Upon making inquiries in American cities, both in the East and in the West, as to what the people of the communities and particularly the young people do with their leisure time, I have repeatedly been shown a boy's club, a Young Men's Christian Association, or some other organization having a splendid equipment but so inadequate with reference to accommodating numbers as to make it practically useless from the standpoint of benefiting the entire community. It is as necessary to provide all the adults with opportunities to keep well, as it is to provide all the children with seats in school; as necessary as it is to provide streets adequate for transporting the entire traffic of the city, a sewage system that shall carry away all the sewage, and a water supply large enough for the needs of the city. Mere samples are relatively useless.

The Socialization of Exercise

But having provided such facilities, such systems, such organization, promotion, and advertising as have been indicated, how shall people be induced to use them year after year, decade after decade? The chief joys of life, its highest rewards, are social in their nature. The main thing to be said against living in the country is the relative isolation from human beings, and the strongest thing to be said for living in the city is that it affords opportunity for human contact and the selection of friends and associates. The answer to the question which I have asked is that exercise and recreation must be socialized. It is not enough that people shall know the importance of keeping well. It is not enough that the city shall furnish places for exercise. Young people must be given opportunity to dance, not merely for the sake of dancing, but for the sake of wholesome, social relations which they may enjoy and because of which they will take the needed muscular exercise. This also is true of camping out, of playing golf and tennis, and even of the old-fashioned croquet and curling, of tramping trips. Groups of people who like each other must together express their social delight and their social life in ways involving wholesome muscular exercise.

I am not expressing an ideal, a utopian scheme. I have mentioned nothing but what is already in successful operation to a greater or less extent in many communities in this country, is in practically universal use in Germany, and to a large extent also in England. What I have outlined expresses one of the greatest needs of American life, both rural and urban.

It is not merely or mainly quantity of exercise that the adult needs. It is only during the growing period that considerable quantities of exercise are needed. After the body has reached its complete stature we do not need

large quantities of exercise, but we do need open air, we do need relaxation from our work, we do need the pleasures of social relations, and these—exercise and social relations—are to be, are being, combined.

During the past five years we have seen a shift in public opinion, in community custom, in tradition, and even in fashion, toward wholesomeness and simplicity of living, toward recognizing the need of fresh air. Articles on exercise are being read, implements for exercise are being purchased by the people as never before. The development of the playground movement in America during the past four years—from 90 cities having playgrounds in 1906 to 336 cities in 1909—indicates the rapidity of growth of one phase of this movement. What we need now is merely the extension of these ideas, until they shall be known to all the people in all the communities. The splendid bathing-beaches of Boston need to be duplicated in New York and every other seaport town. The municipal gymnasiums, the public recreation buildings of Chicago and Los Angeles, are merely the forerunners of a change in national life which is rapidly and surely coming to increase not merely the length, but also the breadth and vividness of human living.

III. FUNDAMENTAL EDUCATION

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Education is a process in which the infant is conducted from birth thru the period of growth and development to maturity, and in which his powers are developed and adjusted to a social order for complete living.

This paper aims to describe the function and place of general neuro-muscular activities, primarily general play activities, in the educational process. We use the term general play to include plays, games, athletics, dancing, the play side of gymnastics, and all play activities in which the large muscles are used more or less vigorously.

The interpretation given might be called the new physical education, with the emphasis on education, and the understanding that it is "physical" only in the sense that the activity of the whole organism is the educational agent and not the mind alone. The key to our interpretation lies largely in that suggestive formula concerning the order of growth and development: from fundamental to accessory. With this warning there will scarcely be any confusion between the use of the formula and the title of the paper —"Fundamental Education."

Back of the thesis maintained is the general idea that education is neither for body nor for mind alone, but for all human powers that depend on educational activities for development.

To present the thesis, four phases of the educational process will be considered: organic education, psycho-motor education, character education, and intellectual education.

Organic education is the process that develops vital vigor, i.e., high nutrition, perfect elimination, a large capacity for activity with relative immunity from fatigue and the common ills of life. This means a development of power in the organs of vegetative life.

All are familiar with the influence of vigorous exercise on the development of the skeletal muscles. Few are so familiar with the indirect influence of this exercise—the influence with which organic education is chiefly concerned.

When a group of muscles is exercised vigorously, the influence spreads thru the whole body, due to the call of the working muscles for oxygen and the elimination of waste products. All the organs involved in nutrition and elimination are heightened in activity as indicated by the throbbing heart, increased respiration, heat, perspiration, etc. Coincidently, thru the increased circulation, all the organs and tissues of the body are saturated and bathed in a fresh supply of blood, while subjected to a natural massage of joltings, pressures, tensions, and strains resulting from the movements, positions, bendings, and torsions of the body. This profoundly increases the influence on the active organs and extends it to the passive tissues.

Thus, while we have practically no direct volitional control over the organs of vegetative life, we can control and exercise these organs indirectly thru making them function in service on the voluntary skeletal muscles. This is the method of organic education. We can control the amount of work done by the character, amount, and duration of the work of the skeletal muscles. The familiar and extreme example of this process is the development of the heart of a distance runner—as truly an educational process as the development of language power.

Organic power must be gained by organic education during the period of growth and development. It cannot be gained in full after maturity because the nascent periods of the various organs have passed. It cannot be gained in full until after established adolescence because the development of the latent inherited resources of the various organs must wait on growth. This principle makes organic exercise an essential element in the educational process during the entire period of growth and development.

Adult organic efficiency rests on organic development gained during the period of growth and development. If this organic development has not been gained in full the problem of maintaining organic efficiency for strenuous living is proportionately difficult. Given organic development and the maintenance of efficiency becomes for the adult simply sane living and proper recreation.

Organic education has no other concern than the development of power. It is concerned with the power of which health is a by-product. Of the factors controlling growth and development, i.e., activity, proper food and fresh air, sleep and rest, sunshine, cleanliness, temperature, wholesome

mental moods, and freedom from the inhibiting influences of disease, activity is the only factor that is educational. The other factors give the conditions for growth and development; activity alone constructs power.

The first function of education, then, is to develop the inherited resources of the vegetative organism. The place of general or vigorous neuro-muscular activities, naturally play activities, in this phase of the educational process, is that of the stimulant to activities that develop functional power. Like all educational activities, they are effective in proportion as they have an effective hygienic background.

Psycho-motor education is the process that develops power and skill in neuro-muscular activities.

It is a simple matter to trace the order of development of psycho-motor activities from infancy onward—first, on the side of locomotion, from crude kickings and squirmings thru creeping and standing, to walking, running, jumping, dancing, etc.; second, on the side of handling objects, from crude fumblings to the skill of the gymnast, juggler, artisan, craftsman, and pianist; and third, on the side of speech, from crude gurglings to oratory and singing.

In this progress in neuro-muscular powers there are two sides: the development of muscular tissues and the development of nervous centers controlling the muscular tissues. It is in the development of the nervous centers more than in the development of the muscular tissues that we must look for the differences in power and skill between the infant and the adult.

The development of power and skill in a neuro-muscular center depends on the exercise of that center by muscular activity. It is purely an educational process. Psycho-motor education is the education of the whole complex mass of the reflex arcs of the nervous system with the crude neuro-muscular reflexes at one end of the system and volitional life at the other. By exercise each level is developed and looped up with higher and lower levels until the mind becomes master of all the complicated activities and special skills of life. The intellectual and character elements in this process are given separate treatment; here attention is confined to neuro-muscular power in action.

It is the function of education by general neuro-muscular activities, naturally general play activities, to develop the fundamental neuro-muscular centers. To manual, industrial, and art education is left the development of the accessory centers and powers.

In the natural order of development of psycho-motor powers the activities of the fundamental centers predominate until approximately ten years of age, then the activities of the accessory centers naturally begin to predominate until approaching maturity, when they may be exclusively accessory. The most important principle in this shifting of predominance of activity, from fundamental in childhood to accessory in youth, is that the fundamental neuro-muscular centers are not completed in their develop-

ment when the striking development of the accessory begins. The development of the fundamental cannot be stopped with childhood. The latent inherited resources of the fundamental centers cannot be developed until after growth nears completion. These powers must be developed before maturity or the nascent periods of the various centers pass. This principle fixes the place of vigorous exercise in youth as well as in childhood. Fourteen to twenty is the age for the development of functional power as distinct from growth.

Violation of this principle of education has had serious consequences. The rise of modern nervousness has paralleled the emphasis of civilization on accessory activities without a corresponding development of the fundamental. Power in the fundamental centers is necessary to give nervous stability in sustained effort and capacity to resist the wear and tear of excessive activity in the accessory. There will be no writer's cramp where powerfully developed shoulder neuro-muscular centers carry the burden of excessive writing.

The second function of education, then, is to develop a nervous system. The function of general or vigorous neuro-muscular activities, naturally general play activities, in this phase of the educational process, is to develop primarily the fundamental nervous centers by exercising the fundamental muscles until the nervous system can carry the burden of civilization. To manual, industrial, and art education is left the development of the accessory nervous centers.

Character education is the process that develops the moral, social, and spiritual powers.

Character education during childhood and youth takes place in the home, in the schoolroom (including the Sunday school), and at play. These cover practically the life of the young. Industrial work may take the place of the school, but this is a special problem not considered here. Ideally, the home, the school, and the playground should co-operate in moral education, but as educators have no control over the home, educational effort must be confined to the schoolroom and play life. If the home influence is of the best, all else will follow, but most homes do not present this ideal condition, and even the best need supplementing by outside effort. The Sunday school does not include all youth, and there is mighty little of it. The public school has as yet developed no generally effective or practical method of moral training, and the possibilities of instruction in the classroom are limited because the activities are limited. The outside play life is the only agent that touches all children and youth which lasts thru the entire period of growth and development, which is naturally character-forming, good or bad, and which is peculiarly sensitive to leadership, good or bad.

The most conspicuous thing about play is its character-forming power. Vices are learned in play, not in the classroom. In the anxiety of earnest

parents concerning companionship is seen the moral power of leadership. Criticisms of intercollegiate athletics are eloquent testimonials of the moral power of athletics and the quality of the leadership. In 1898, after having studied for two years the careers of 480 inmates of a juvenile reformatory, personal data indicated that 75 to 80 per cent. might have been saved an institutional career had they had a normal play experience. Social workers agree that the "bad boy" is largely the product of restricted or misdirected play energies. Juvenile delinquency diminishes in districts where playgrounds are established. A moral toning-up is the universal testimony of experts on the results of directed play.

The character-forming power of play lies in its nature. It is the child's soul-life. Play may be defined as human nature growing up. The immature organism expresses every mental and nervous tendency and every developing instinct and reacts upon every experience according to its growing capacities. Several natural stages of character-development are clear. The first years are spent in gaining elemental adjustments to nature and society. This is followed by the age of aggressive self-preservation, Lee's "Big Injun" age. Then follows the "gang" age, with its co-operation, loyalties, self-subordination, and leadership, and finally comes the age of moral and religious interest. Character-power is gained naturally in this order. Failure to gain development during the nascent period leaves limitations for life.

In the supervision of these play tendencies we have the foundation for all moral training. Character education by doing precedes moral education by precept. All higher moral education must be built on these habit-forming activities. They are basic. This is fundamental character education.

This fundamental character education thru the guidance of conduct in play is not completed in childhood. It continues thru youth and long after moral education by intellectual inspiration may be well begun. The athletic field of the later adolescent years is as truly a laboratory of conduct as is the playground of the child. This is the last-chance age for intensive moral training by direct personal guidance and discipline. Fourteen to twenty is the critical period in which all the larger fundamental social character-traits and moral habits are formed, and they are formed in large measure on the play side of life. These facts indicate the necessity of supervised play in youth as well as in childhood.

During infancy nature cares for this fundamental moral education. Every child's mother is his first play director. By instinct she is a playmate and a play-leader, guiding her infant's developing activities to material and social adaptation. Later this leadership is withdrawn or neglected as the child gains the elemental powers of self-preservation, but the character-forming activities go on and accumulate in intensity and influence as age advances. All the bad habits known to youth are the result.

The third function of education, then, is the development of a character morally and socially sound. This must be done primarily in the natural laboratory of experience of the young—play. All higher methods of moral education must be based on the habits of conduct gained largely in play. These habits are the vital, the fundamental things in moral education.

Intellectual education is the process that develops intellectual skill and gives information and culture.

On the side of training for intellectual skill, the discipline of perception, attention, memory, judgment, etc., in general neuro-muscular activities, is well recognized. This is, however, only mental discipline in psycho-motor activities. While this discipline is not completed until the mind is master of the accessory activities in industrial or professional occupations, the power gained is only slightly, if at all, transferred to power in the study of science, art, or literature, and vice versa. The athlete may be a fool in the classroom, and conversely the theoretical scholar may be for all practical purposes a motor idiot. Each gains power by thinking in terms of his own activity. Thus while intellectual discipline by general neuro-muscular activities is only a part of psycho-motor discipline, and this in turn only a part of all intellectual discipline, it is discipline on the level of the fundamental.

On the side of information, the child learns by doing—primarily thru play. The early years are spent in learning, testing out the material environment in action. This hunger for experience continues thru, and is strikingly characteristic of, youth. Social workers have learned its meaning and are using it in organized excursions, outings, collecting and hunting trips, experience with animals, gardening, and what not. This is reading nature from the sources. In the same direct manner social life is learned. In imitative and dramatic plays of adult activities, for example, the child plays himself into an understanding of human ways of living and doing. The process is continued among companions in plays, games, and sports, and in later social experience. A great store of insights, sympathies, understandings, habitual reactions are built up, which become the foundation for all social thinking. The ideas thus gained soon sink to the level of the automatic. This is knowledge in the backbone. It controls doing, feeling, thinking, and is only another way of saying that all social sympathy, good or bad, has its roots in play.

In the hunger for experience and the hunger for expression, we have the natural incentives to intellectual education. If not organized in wisdom for educational ends they will be organized in ignorance for less wholesome ends. By feeding these hungers in an organized play experience education should give a virile contribution to intellectual education along with character education, psycho-motor education, and organic education.

The fourth function of education is to develop a skillful intellect, well stocked with insights and information. Education by general neuro-

muscular activities or general play gives the fundamental intellectual discipline in action and the fundamental knowledge on which higher modes of discipline and the higher information may be built.

To summarize: The function and place of general neuro-muscular activities, or primarily general play activities, in the educational process, is to develop power in the vegetative organism, to develop power in the fundamental centers of the nervous system, to develop character by guiding the expressions of character in play, and to develop the fundamental intellectual resources thru organizing and guiding the mental hungers for experience as expressed in play.

This function we have called "Fundamental Education," partly because it deals with the involuntary system, the fundamental nervous centers, the basic character-expressions in play, and the crude bulky intellectual activities of early-life experience, and partly because it cross-sections the beginnings of all phases of the educational process and gives in general that on which all later education is built. The four phases of the educational process described are but phases of one process and cannot be separated wisely. Neither can this fundamental education wisely be separated from the latter and more advanced forms of education.

We identify the new, growing function of physical education with fundamental education, and both with the natural function of general play in the life of childhood and youth, while still recognizing the fact that play must be supplemented and often replaced by formal activities because of interferences with efficient play by social conditions. Physical education takes over nature's means of education, organizes it to balance social conditions and directs it for the highest educational values.

Education by play is the whole of early education. In infancy there is practically no intellectual activity with inhibited action. The organism acts as a unit: what the infant acts he thinks and feels; what he thinks and feels he acts. Only gradually is the capacity for intellectual work differentiated from psycho-motor activities. It grows slowly in childhood, may grow rapidly in adolescence until the capacity for long-sustained intellectual effort may be developed in the adult. Education by play predominates as an educational force thru childhood. In adolescence, the prominence of play as an educational force diminishes as the manual, industrial, and purely intellectual forms naturally rise to predominance. General play consumes less time in adolescence, but it becomes more intensive and requires more regulation.

In infancy play is not recreation, it is life—both work and recreation. In later childhood the recreative element begins to appear and rises rapidly in adolescence (paralleling the rise of work and the intellectual forms of education) until toward the end of the period of growth and development when the fundamental powers are established, play becomes entirely recreative. During the period of growth and development the play of the infant

becomes differentiated into the play and work of the adult. Sane and efficient recreation in the adult is based on the fundamental education of the young. Fundamental education is one of the ultimate appeals in constructive social-welfare work.

Physical education or fundamental education, as interpreted here, is a part of the whole process of education. It is fundamental to all that follows and it establishes efficient recreative habits for adult life which naturally grow out of it. If the thesis here maintained is correct, it seems inevitable that the school system should absorb the national play life of children and youth and organize it, promote it, and manage it.

IV. THE AMERICAN GAME OF FOOTBALL AS RELATED TO PHYSICAL EDUCATION

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In 1905 the American game of football came under a severe storm of criticism. The academic authorities in many institutions had lost all control of intercollegiate athletics; normal athletic effort within the colleges had largely disappeared, and expressions of disgust with the game and with the way it was managed were heard everywhere. It was clear that the game must be purified, moderated, reformed, or else abolished; and the abandonment of the game involved tremendous difficulties, so thoroly intrenched had it become by alliance with financial interests outside the colleges.

The evils of football at that time were ably set forth by President Eliot of Harvard University in an article in the *Woman's Home Companion*. He says:

> The game is played under established rules; but the uniform enforcement of these rules is impossible, and violations of the rules are in many respects highly profitable toward victory. Thus, coaching from the side-lines, off-side play, holding and disabling opponents by kneeing and kicking, and by heavy blows on the head, and particularly about the eyes, nose, and jaw, are unquestionably profitable toward victory; and no means have been found of preventing these violations of rules by both coaches and players. . . . . The common justification offered for these hateful conditions is that football is a fight, and that its strategy and ethics are those of war. One may, therefore, resort in football to every ruse, strategem, and deceit which would be justifiable in actual fighting. They always try to discover the weakest man in the opponents' line, as for example the man most recently injured, and attack him again and again. . . . . If in the last encounter a player has been obviously lamed in leg, arm, or shoulder, the brunt of an early attack should fall upon him. As a corollary to this principle, it is justifiable for a player, who is in good order, to pretend that he is seriously hurt, in order that he may draw the opponent's attack to the wrong place. These rules of action are all justifiable, and even necessary, in the consummate savagery of war, in which the immediate object is to kill and disable as many of the enemy as possible. To surprise, ambuscade, and deceive the enemy, and invariably to overwhelm a smaller force by a greater one are the expected methods of war. But there is no justification for such methods in a manly game or sport between friends.

Aside from the direct effect on the players the game was open to certain minor objections. Among these were its publicity, the obsession of the student body in the one idea of victory at any cost, with the disproportionate exaltation of the football hero, his artificial training and the necessity of an applauding grand stand audience to bring out his best work; the state of mental distrust and hostility engendered between institutions, destroying that broader acquaintance with men which is one of the normal virtues of intercollegiate sport, and finally the essential stupidity of the game to the spectators in its most prominent feature of line-bucking.

The game is a struggle between contending groups of excited students who for the most part have no share in it except as onlookers. If one is interested in neither side of the contestants, no game is more tedious to witness than the American game of football. Almost every time the ball touches the ground the game stops, the masses of armored legs are disentangled, and time is given for those who have lost their breath to rise to their feet again. Once in a while a brilliant run stands out as a marked exception, but the interference which makes the run possible is often invisible to spectators. Of course, if football were a true sport, this would be no objection, for a sport has its value in the delight of the players themselves and in their improved physical development. That which is played for the benefit of spectators is a spectacle, not a sport. And no man lives who would play the American game of football for pure sport, knowing that nobody would ever be on the bleachers and that neither his name nor that of his adversaries would resound among his fellows or appear in headlines in the newspapers. On the other hand, were it not for the intense partisan desire to see their opponents defeated the game would appeal but little as an exhibition to the average spectator.

Nor was it alone in the colleges that the game was condemned; in the secondary schools conditions were worse. The American game is totally unfit for secondary-school students. High-school boys are too young for such fierce exercise; they have no adequate training, no power to enforce standards, no competent umpires. It is rarely possible for them to play an honest game against honest competitors, and the death-rate among secondary students in these games is appalling. It is criminal, and the crime lies with the public which permits and encourages these dangerous and harmful exercises. The death-rate and the list of injuries on college teams is relatively far smaller. This means that the greater age and costly training and rubbing have made them relatively immune to injuries. Quite as likely it means that all athletic youths with fragile bones or weak hearts have been disabled and put out of the running before they reach the college. It is again in the high school or secondary school that the evil of "proselyting" reaches its climax.

Other objections to the game lay in the presence of the professional coach, the promoter of public athletics, who makes his living thru winning victories and who goes as far in securing them as a relaxed public opinion in city and university will let him. The self-respect of the colleges demands that this feature of intercollegiate athletics should be changed. If there must be a paid coach, he should at least be student or alumnus of the institution in which he serves. and the academic life of the paid coach like that of the athlete should be limited to four years.

Closely related to the evil of the paid coach was that connected with the gate receipts, immense in amount, resulting from popular games. With this went the attendant training-season expenditures, involving the handling of large sums of money by untrained collegians under the pressure of association and sympathy and the cold machinations of graft.

The net result of these and many other similar criticisms during the season of 1905 produced what was known as the New Football of 1906. The most important feature of this revised football was the attempt to clean up the game, to free it from the gross abuses, and to conduct it on the basis of gentlemanly relations. As the worst offenders in the past were such mainly because the students and alumni demanded a winning team, and the faculty acquiesced thru the suspension of ordinary tests of scholarship in favor of athletic heroes, the change of popular feeling met with a ready response on the part of successful coaches. But the cleaning-up did not nearly reach the end of the line, and the old moral evils were left and still exist in many colleges and secondary schools.

Besides the moral uplift which in the nature of things cannot be universal or permanent, certain changes in the game itself were enforced by public opinion. These are, in brief, making the game more interesting by making it more open for observation and by giving greater scope to individual skill, especially that shown in a scattered field. Again,

the attacking line has been weakened thru requiring ten yards' gain instead of five in three downs. This change has made mass play less successful and hence more likely to be set aside in favor of more open plays. At the same time mass play remains the ordinary way of putting the ball in action, however useless it may be with evenly matched teams, while its value for the purpose of breaking down an individual opponent is perhaps relatively enhanced. With this, two additional hazards not germane to the game were introduced. One is the forward pass, perhaps suggested by the passing by the backs in the Rugby football, but under different rules. The other is the on-side kick. Both of these are open to the criticism that they do not naturally rise from the nature of the game. On the other hand they serve as a relief from the line-bucking, a perversion of the Rugby scrum, which by a curious inversion of ideas has come to be known to the public as "straight football."

The new rules made the game more open, more of a sport, considerably safer, and on the whole notably cleaner and more interesting. Shall we be satisfied with this? Is the balance from the academic standpoint in favor of the game or do the evils so forcibly pointed out by President Eliot and recognized by every college man still exist and outweigh the advantages? If so, are there other modifications still to be made which shall outbalance these evils, and leave a residue in favor of the game as a means of promoting manliness, physical development, courage, quickness of action, and the spirit of co-operation?

If we test the revised American game by its relation to the criticisms which were made against it in 1905, we find that the evils of publicity remain as before. In the matter of injuries to players, these have been somewhat reduced, perhaps by 10 per cent. It may be noted in passing, however, that many injuries which seem trivial may be of a serious nature. The predominating injuries in football are to the nervous system, arising mainly from mass plays and from fierce tackling after long runs. Next in importance come internal injuries, especially to stomach and intestines, arising from illegal kicking and from "kneeing." Injuries to the eyes and head come often from intentional blows and all these are far more dangerous than the occasional fracture of an arm or a leg, which is likely to occur in any strenuous sport. In proportion to the openness of the game, the evils of intentional manslaughter are reduced; but many of the great games and most of the minor ones show that this evil is by no means abolished. The noise and obsession remain the same. A writer has claimed that football victories cannot be won by institutions in which the student body does not go wild over the game. Harvard is told that she cannot win over her traditional rival so long as her student body can endure victory or defeat with equanimity. The evils of artificial training, of dependence on noise, have not been reduced by the change in the rules as to the space be to gained in three downs, or by the adoption of the forward pass. The coaches do not wish this changed, and curiously enough, while the American game of football has no existence except as an interacademic function, its control has been largely in the hands of unacademic men, who depend on the game for prominence as well as livelihood. To this we may ascribe the mechanizing of the game—the making of the game a matter of "certainty," depending chiefly, not on the skill of the men who play, but on the skill of the coaches in arranging their quasi-puppets, and utilizing their muscular strength and their occasional fleetness of foot and accuracy of kicking. The great evils mentioned by Dr. Eliot have been in large degree minimized by closer rules as to eligibility and greater insistence by college faculties on tests of scholarship. The forward pass gives play for individual skill, for which reason the professional coach, who wants everything made certain beforehand, looks on it with disfavor. The players in a losing game sometimes try it to increase chances. Being an uncertain element, good luck or quick action may bring its chances in their direction. The essence of true sport is to offer many chances, with victory to the team which has most men ready to seize these chances or to back up their colleagues who have done so.

It is plain, admitting as we may the improvement that has been made since 1906 in the American game, that it offers greater interest as a sport; it has been safeguarded by greater limitations as to eligibility, and there has been diminution of danger to life. It is, however, true that the greater part of the old arraignment of the game still holds true. This is because the evils are inherent in the game. Relaxed vigilance on the part of college faculties will see the old conditions restored. The balance is everywhere against the game. On academic grounds, the only grounds colleges have a right to consider, the colleges generally would be justified in following the example of Columbia University in abolishing the game outright. This is a conclusion I have reached reluctantly, for my natural sympathies are with the struggling athletes. There has been much agitation, much discussion, and much revision with no adequate result.

If the game is abolished, is there any substitute that can be offered to take its place? The writer believes that most of the present evils of the football game would disappear by going back to the British Rugby game of football. If this is true, a change to a better game is an experiment to be preferred to the out-and-out abandonment of intercollegiate football. This is probably the only real alternative, and outright abolition may be necessary in any event if the colleges are to meet their obligations to the public.

It should be remembered that the present American game is a modification of the British game of Rugby introduced in this country in 1876. The chief differences in the two games arise from the legalizing in America of "off-side play," called by us "interference," which is forbidden by the rules of Rugby. In the latter game no player may run ahead of the player on his side who carries the ball. In legalizing interference any number of men on the attacking side may run ahead of the ball, consequently as many of the defense as can be spared must stand in opposition. Hence arises mass play, the ungraceful and unsportsman-like element, now called "straight football." Secret signals and the fact that the whole attacking side may buck the line together give the attack a marked advantage over the defense. Hence the necessity of holding the ball by the attacking side. In Rugby, when a man is down with the ball the ball is still in play. Only the man who falls is out of the play. The rest go on. In the American game the play is stopped for him and all the others who may be piled upon him to rise. The held ball renders impossible the particular play which is the glory of Rugby and the prettiest as well as the most sportsman-like feature of any football game, the passing of the ball from one to another of the "backs," in a scattered field. In the American game, any such passing of the ball involves the too great risk of losing it. In Rugby, a lost ball may be regained by alertness and speed. In Rugby every man plays his own game; each of the backs is his "own quarterback." For these reasons the game is thruout open. The ball can be followed by the spectators; rough play, if present, can be seen by everyone. Better still, it is a true sport, not an array of battle. As matters are, how does the Rugby game stand related to the evils we have named above? The matters of publicity, of "crude and vociferous public praise and blame," will not be much altered. The huge gate receipts will remain the same. But these invite attack from another quarter. We may make the game free—accessible only on invitation—and an army of evils vanishes at once. But this requires courage and effort and a psychological moment.

There is danger in every manly sport, and there are worse things than physical danger to be faced in college. But the players generally enjoy the Rugby game for its own sake. The student body enjoys it also for its spectacular qualities and beautiful plays. Boys are, however, the most conservative people on earth, and those of the West are not quite happy unless they play the same games as are played in colleges in the East. This is the only real objection to the restoration of Rugby which the California universities have encountered.

The use of Rugby as an intercollegiate game will doubtless yield evils of its own, as well as repeat some of the evils of its American derivative. The worst possibility is that it will fall into the hands of coaches who will stifle its freedom of play and develop the

mechanical battle-like game in which, as now, players would abandon their individuality under the direction of coaches. Foul play in Rugby is plainly visible to spectators, moreover it is ineffective and would lose the game oftener than win it. There is no mass play in Rugby, and a savage tackle is bad play, for to throw the runner and to fall oneself with him does not stop the ball, which has been thrown to some other player. The punting is about the same in the two games, but every man in Rugby must be able to kick quickly and accurately. Punting is not a personal specialty of two or three of the backs as in the American game.

In the two great universities of California, the Rugby game, played under varying but fundamentally identical rules thruout Great Britain, Canada, New Zealand, and the northern half of Australia, has been substituted for the American game. The initiative in this matter was due to President Wheeler of the University of California and to Professor Frank Angell, chairman of the committee on athletics of Stanford. The present writer was an early convert to the wisdom of this action. The game has been played for four seasons and with very gratifying success.

Experience shows that the accidents in Rugby football are much less frequent, less severe, and mainly confined to the limbs. Injuries to the legs are almost as frequent as in the American game. The fact that the game is played in cotton drawers instead of padded coats of mail indicates at once a great difference. The Rugby football is a far swifter game, involving adroitness and co-operation rather than great strength. The giant has the advantage even in Rugby, but he must be a giant whose head and whose feet move quickly. As there are thirty players in a game of Rugby instead of twenty-two, and as it is a sport which men will play even tho there is no possible hope of making any team, its introduction tends to revive the life of athletics within the colleges, which the American battle game has done so much to destroy. Men can play Rugby football and carry full work in the classroom as well. It is a rare man who can do this and play the American game even as a scrub.

The game of Rugby cannot be planned by a coach. The most he can do is to give form to individual players. In New Zealand, the especial home of clean, swift, strenuous sport, every player is his own coach, and professionalism of coaches as well as of players, tho not unknown, is condemned by universal popular opinion.

To be sure, the Rugby game never gives the thrill that follows the shock when masses of men throw themselves against each other. But this sort of thrill is not a thing to encourage. It is psychologically and doubtless ethically bad. At any rate our laws look critically on the value of prize-fighting, which shares this feature in common with American football. The obsession and hysteria of the student bodies are much less in the Rugby game. It is a sport, not a battle, and the fine play of both sides appeals to the higher instincts of the youth.

For these reasons, the various attendant evils, the building-up of a team by proselyting, the immoderate desire to win, and the machinery of intercollegiate war, are less likely to be developed with Rugby. These evils are wanting in England, in Canada, in New Zealand, in Sydney and Brisbane, and our people in America are of the same nature, and have the same blood, the same ethics, the same love of sport as these. Doubtless the general adoption of the Rugby game would lead to material modifications. The abolition of interference in the American game, carrying with it the abolition of the held ball and the mass play, would approximate it to Rugby, and a further revision in this direction would perhaps make the game acceptable to college authorities. The outside professional coach should be eliminated in either game. To make him a member of the faculty does not affect the situation. On the other hand the schoolboyish scrum of the Rugby game is sure to be modified in the hands of American students, tho not, I trust, by the substitution for it of the line-bucking plays.

The difference between the two games—the American and the Rugby—is essentially the difference between a fight and a sport. The latter is sufficiently strenuous to satisfy

the most exacting; but the player has a chance in the open. The spectator enjoys it, be he collegian or not. Dr. Eliot has said, speaking of football: "Civilization has long been in possession of much higher ethics than those of war, and experience has abundantly proved that the highest efficiency for service and the finest sort of courage in individual men may be accompanied by, and indeed spring from, unvarying generosity, gentleness, and good will." The Rugby game lends itself to the cultivation of the gentler and finer qualities of sportsmanship.

DISCUSSION

Mrs. Ellen H. Richards, president, American Home Economics Association, Boston, Mass.—Dr. Gulick has most adequately expressed one phase of the subject, but there is yet another. What of the unsocial individual, one who prefers his own walks, who finds his recreation in his work? Shall not some attention be paid to the exercise gained in the daily task? If the houseworker carried her body correctly and used her arms and bent her back with skill, she would find the exercise she needed; and if the house were as open to the air as it should be, it would not be necessary for her to seek her health-giving atmosphere outside.

If the shopworker had pleasure in his work and a really well-ventilated space to work in, there would be less weariness to overcome.

It is all right to increase the number of playgrounds, but at present the tendency is to widen the breach between play and work and thus increase the cost of living, whereas work should be so well ordered and so interesting as to lessen the need of play. I know of at least one school, a combination of academic and industrial methods, where the "inspirational" teaching causes an interest in the work that is a positive joy in itself.

I should like to supplement Dr. Gulick's socializing of play and of exercise by socializing of work. In our new vocational schools there will be one difference from trade schools. To be skilled in a trade one must use the same set of muscles until the movement is made automatically. This does not preclude a child, as it does an older person after years of atrophy of all else, from learning another set of motions. The development of the child and youth is gained only by a use of several sets of muscles one after the other. Much work may be done in groups, and when work is socialized the cooks of this week will be the waitresses of next. This is not impossible, only unheard of, and that should not be a barrier to an American.

To an elderly Puritan with a scientific training all this talk about play and the value of play and socializing play (play has been socialized from the very beginning) strikes somewhat hollow for all but the slum child.

Was any play devised better than helping in the planting and harvesting, in going for the cows, in feeding calves and chickens, in berrying and nutting? Filling the wood box, shoveling paths, even tramping to school in the snow, were developing exercises.

The cost of living is such a vital topic today, why not consider what part of even city living may be shared in by the children? Most families could make a distinct reduction in the drain on their resources, much to the physical as well as moral welfare of the children. The child should not be exploited, deprived of schooling, or tied to a bench or a machine; but have we not gone a little too far in considering that the child should be released from all household activity? The social welfare of the race demands *habits* of thrift and efficiency, and all habits must be learned young.

Homer H. Seerley, president, State Teachers' College, Cedar Falls, Iowa.—There has been a notable change in the attitude of society toward the necessity of making physical education a part of the public-school curriculum during the past decade. This has happened not because physical education has been assumed to be a panacea for the physical ills of humanity, but because it has become recognized that harmonious and complete development of an individual must include the capabilities of the body as well as

the capabilities of the mind and the spirit. Physical education has, therefore, become fundamental to a proper training for life, and its omission from any grade of school is regarded as a neglect of the pupil's rights and privileges. Proper growth, full development and expansion of capability demand the proper attention to everything that contributes to the efficiency and the power of the individual pupil. It is, therefore, true that physical education has more to do with the functions than with the faculties, more to accomplish in securing normal conditions and proper action than in producing skill or establishing occupation. It is preparatory to everything that must later be done to emphasize the importance and the value of life, and its accomplishment renders possibilities certain that would otherwise be dormant.

The importance of this fundamental education during childhood and youth should not be overlooked. It is far too common to think it desirable during secondary and college days and make elaborate provision therefor, and equally common to think it immaterial during the earlier years when it is instinctive and naturally constant and make no suitable provision therefor. This situation prevents the essential training at the right time and in the right place, and hence produces a lack of interest and of capability that the best civilization needs. The physical director, the playground, and the gymnasium are absolutely essential at this period of education and training, and yet none of these things is provided or even considered as important in the majority of public schools. Some of this condition grows out of ignorance of the people, some of it comes from a faulty and mistaken leadership, and some of it is caused by a lack of appreciation of the actual value of such education in the early years of childhood and youth. Most of the other kind of activities deemed essential to the individual in his relation to civilization, such as the mental, the moral, and the religious, are given elaborate personal attention, direction, and supervision, while fundamental education which regards the functions and the development of the body is left to chance and to indirection, as the pleasure of the child may incline.

It has been ascertained by investigation and experiment that when the children of the helpless and the inordinately poor are to be made interested in work, in becoming identified with occupation, in study in school, or in activities of any kind that make them industrious, self-supporting, and capable of self-defense, physical education is absolutely fundamental to the kind of a beginning that means success in the philanthropic education. It has also been ascertained that these populations are satisfied with dissipation and degradation, with wretchedness and misery, because they have no taste for activity, no interest in any form of outdoor sports, and no ambition to occupy their spare time in any form of physical recreation. The entire absence of fundamental education from their training, caused partly by lack of opportunity to acquire the same and caused partly by the adoption of habits contrary to such kind of everyday activity, is largely responsible for their indolence, shiftlessness, and incapability. To correct such difficulties as these, to prevent such losses to civilization, to make public education more effective and more complete, it is highly important that the point of view here emphasized receive prompt and continuous attention in all programs of elementary and secondary education.

THE VOCATIONAL AND INDUSTRIAL SCHOOL

FREDERICK P. FISH, CHAIRMAN, STATE BOARD OF EDUCATION, BOSTON, MASS.

(*Abridged*)

Great is the responsibility of the teacher and of those who have the burden of shaping and administering educational policies. They deal with all our children and youth. Not only is their work of vital interest to every

one of us now living, but the progress of the race, the character and capacity of future generations, depend to a substantial extent upon the educational efforts of our time.

The future of each individual child is in large part determined by the effect upon him of the education which he receives. No amount of training can do more than modify, enlarge, or diminish his mental, moral, and spiritual characteristics. Education cannot make a dull child brilliant or transform commonplaceness into genius.

The place in society in which one is born, his status, does not in our times constitute an insuperable barrier to development in any direction. Unusual talent or marked tastes, coupled with persistency and intelligent effort, not infrequently carry one who is handicapped at the start by disadvantages, such as poverty or unfavorable social surroundings, to the position in the social world to which he aspires. The handicap exists, however, and it is only the unusual individual that may expect altogether to escape from its repressive control.

What each child born into the world may reasonably hope is that he may do as well as possible for himself and for the community, in view of his own inherent mental and physical powers and characteristics, due regard being given, as a practical consideration, to the advantages or disadvantages of his social environment. If he finds the work for which, all things considered, he is best fitted and does it as well as he can do it, there is no doubt of his success in life.

The two things, therefore, that are of the greatest importance for each child are these: First, he should be understood. His physical and mental capacity, his character, tastes, and inclinations, his points of strength and weakness, the direction in which he can best be developed, the work that he can undertake with the greatest chance of profit to himself and to society, should be known. Second, he should be trained and developed, not on conventional lines, but in that way which is most effective for him in view of his special character and aptitude.

To determine his characteristics and as a basis for adequate training, each child should be studied individually. Parents and immediate associates can do this; but, alas, it is very seldom that they have the capacity to observe and analyze the quality of a child's mind and to determine his traits and inclinations. The subject-matter is too complex. It would be a great gain to our race if parents themselves could be trained for this important duty. As it is, they are, not infrequently, unable to apprehend even the bodily needs, a matter far more simple.

The child's own instinct, if it can be developed so as to become conscious, may well be a better guide as to the direction in which he can be trained to the best advantage, than the unintelligent conclusions of his parents or immediate friends; but it is only in rare instances that he shapes into form his vague aspirations and his shadowy conceptions of his tastes and capaci-

ties. Moreover, he distrusts himself. He seeks the guidance which those nearest to him are unfitted to give.

The education of the child begins with his first conscious activity of mind or body and ceases only with his death. The greater part of it comes merely from association with others, from imitation, and from observation attended by reflection, conscious or unconscious, on the matters observed. For most of the men and women who have lived in the world up to the present time, there has been no other education than this. It has been sufficient for the requirements of many periods. It has made not only good hunters, shepherds, tillers of the soil, and artisans, but statesmen, soldiers, authors, and even engineers and lawyers. Many such of high repute received no real school education.

Up to a comparatively recent time the experience and judgment of educators led them to the conclusion that school education should not be very definitely correlated with the practical affairs of life; that it should be general in its character, aiming primarily at mental discipline and the development of intellectual and spiritual quality; that the things taught and the methods of teaching should promote culture, should give the child knowledge and right views of life that he might become better and stronger and a more worthy citizen. It was believed that a sound training of this sort would develop character and capacity so that the child, when of mature years, would readily acquire the special knowledge and training in practical work which he must have in order to succeed in whatever vocation he might happen to adopt. It is not so many years ago that even those who were to enter the professions had no special school training for their work.

All this has now been changed. We have everywhere professional schools illustrating the universal conviction that for the vocations that are primarily intellectual in character, special school instruction is essential.

We must not think that our ancestors were altogether in error in proceeding upon the theory that the matter of prime importance in education was general training as distinguished from special training for practical work. In the old days in which this principle was established, the conditions were such that there was not the same need as today for systematic preparation for the ordinary vocations. The apprenticeship system afforded an admirable training for many of the common vocations. Not only in the country, where a far larger proportion of the population lived, but in the cities and towns, all of which were relatively small, every boy and girl had large opportunities outside of school for practical work and the observation of practical work, which definitely fitted them for the life of industry or trade which they were to lead. Their education outside of school in the practical affairs of the community fitted them so well for their own future vocational work that it would have been largely a waste of time to have given, in school, any attention to the matter. The obvious function of the school was to give them what they did not get elsewhere, but which

they needed in order that their lives might be as satisfactory and as well rounded as possible.

The times have changed. No longer does the mere fact that he is alive and among men give to the child the education in practical affairs and the vocational training that were his inevitably a few generations ago. The old-fashioned apprenticeship system has disappeared. People have crowded into the large communities where the opportunities for this outside practical education are reduced to a minimum. The advent of a new class of immigrants, swarming in multitudes into the cities where the conditions are most unfavorable, has accentuated the situation. Their children above all others must be trained to efficient effort as well as to become good citizens. Their surroundings do not help in either direction.

Fortunate today is the child who is brought up in the country or on a farm. He has some of the old-fashioned influences about him. He learns to use his hands. But our other children can look only to the school for a large part of that which, in the old days, they got outside of it. This is the thought that is at the basis of the modern movement toward industrial and vocational education. Exactly as we now insist that our professional men need special school training for their work, altho at one time such training was not regarded as necessary, so now we believe that all the work in the world will be better done if men and women are trained for it in school, in the right way and to the right extent.

It is easy to state generally and vaguely the underlying idea of vocational education, but far more difficult to organize the curriculum so that the idea may be applied in practice. This is the work of the expert educator. Much admirable thought has already been given to the subject and much work has been done. Results have already been achieved which justify the belief that the problem will be satisfactorily solved.

It is clear that as part of the education of the future there will be vocational schools in parallel with those of the ordinary type. To these schools will go boys and girls whose future is in the direction of the vocational activities—industrial, commercial, or agricultural—which are there taught. Their training will be largely that of actual work under the normal conditions of actual work. They will, however, also receive book instruction, partly relating to and correlated with their vocational training, but partly "cultural."

Pupils will leave these schools with a much better training for many of the vocations than they can get today by going to work to learn the business in the old-fashioned way. Work in the shop is now necessarily so specialized that, altho wages may be good, the ordinary boy or girl starting in at the beginning, with no special training in the industry, has but little other prospect than to stay at one job, where, by constant repetition of one or a few acts or processes, an automatic skill is acquired which promotes production. There is the same specialization in the commercial establishment.

In such an environment men and women are not likely to grow. They cannot become expert, generally, in the work, as did many of them in like employment fifty years ago. A preliminary school training covering a large part of the field of the vocation will surely enlarge the horizon of the workers, add to their vocational intelligence, and give opportunity for more varied employment and for advancement. Those so trained will be the ones to whom the employer will look when he has to fill positions of greater responsibility.

Such schools will undoubtedly attract many who are at the end of the compulsory school period and who would refuse to proceed farther in the ordinary curriculum. The practical character of such a school will appeal to them. They will feel that the work there will be a direct and distinct preparation for that of real life. Many children do not have this view of the work of an ordinary school, which seems to them conventional and of no real value.

Sad is the lot of the ordinary boy or girl who leaves school and goes to work at fourteen. The skilled employments have no place for such. They are likely to drift into the very lowest grades of work and then to stay there for the rest of their lives. If the vocational school were of no value except as a device to keep at school for an additional two years those who would otherwise go to work prematurely, its existence would be justified.

The work of the ordinary schools and particularly of the public schools is already receiving new and careful study with the view of its revision to meet the conditions requisite for suitable vocational training. Such schools have not until recently undertaken, and do not now as a rule undertake, to fit for the practical work of life except very indirectly. Their aim is to develop character and capacity, to enlarge the intelligence, and to stimulate mental power. This is a most worthy aim. Never under any scheme of education must the cultural value of education be neglected or overlooked. Our children must be trained to be good citizens. They must learn as much as possible of the wonders of the universe and the achievements of man. They must acquire sympathy with all that is noble and beautiful. They must learn to observe and to think accurately. Their mental powers and moral sense must be stimulated.

It is clear, however, that today they need from their school career a training in the practical things of life. They cannot now get that training to an adequate degree in any other way. This does not mean a revolution. It does not mean the sacrifice of what is good in our present training. It simply means a revision of values, a readjustment of conditions. If some of the school work is obviously related to that of grown men and women and the children secure results in that work which are parallel with those attained in the serious affairs in life, they will begin to realize that all their activities, including the book side which often seems so unreal to them, may, in like manner, have a close relation to concrete reality.

There are many instances of boys who were thought dunces at school, until some form of practical achievement stimulated them for the first time to mental effort, whereupon they at once became scholars. I believe that this would not infrequently happen in our public schools if the boys and girls who are so constituted that their prime need is practical effort had the opportunity for it.

No one can contend that practical work and studies based on and relating to practical work, or so shaped as to elucidate and dignify it, would not, if properly carried on, develop character and capacity to as great a degree as any now in the curriculum. There is not a side of human nature that would not be benefited by such studies and by such work. The powers of observation, reason, and judgment would be stimulated; industry and accuracy in thought and effort would be promoted; discipline would be inculcated. A sense of beauty and of the fitness of things would be developed.

It is for the expert educators to determine just what must be done to introduce the vocational idea into our public-school system without any sacrifice of the admirable qualities of the system as it exists today.

The selection of the particular course of each child should be guided as far as possible. It should not depend solely on the pupil himself as is the case in some of our colleges, where there is almost too free an opportunity to choose courses at will, for vocational or other reasons.

It would be an ideal condition if it could be determined for each child exactly the walk of life, large or small, in which he could do the best for himself and the community, and the child could then receive that training which would do the most to develop his capacity for the special work he was to pursue.

Under the most favorable circumstances this condition could never be altogether attained. The enormous number of children to be educated makes it impossible to deal with them adequately as individuals. They have to be treated for the most part in groups. This is unfair to each individual child. Let us hope that a way can be found by which the characteristics and needs of each may be the subject of some study. If the teacher were not overburdened with work, he is probably in a better position than anyone else to form a sound estimate of a particular child and to aid generally in his development as well as in the choice of his career. Many teachers are now most helpful in this matter. May they all recognize it as part of their duty, to be performed as well as can be under the difficult conditions of their work.

I have endeavored to speak of the general phases of vocational education. I am not competent to go farther. All depends on the educators and the teachers of the country. They are studying the subject earnestly. A very large number of them have not only grasped the idea with the utmost sympathy but have thought and worked upon it with admirable

results. If all will study the problem and each contribute what he can to its solution, our times will surely develop a forward and upward movement in education for which future generations will bless us.

THE NEED OF INDUSTRIAL EDUCATION IN OUR PUBLIC SCHOOLS

THEODORE W. ROBINSON, ILLINOIS STEEL COMPANY, CHICAGO, ILL.

American standards of living have been made possible by our unparalleled resources and have been accomplished by our unparalleled energy and ingenuity. Our wages are much higher than those of European workmen in similar positions. Our cost of living is also higher but the average net difference in favor of American labor has been sufficient to command those things of life which make for happiness and contentment.

But new and rapidly expanding economic forces are at work. It is coming to be recognized that our national resources are not limitless; that reckless and extravagant exploitation must give way to careful and scientific operation; that a rapidly increasing population necessitates exports more and more of an industrial character, and that successful competition in the markets of the world is bound to be an increasing factor in our prosperity.

In studying competitive conditions one is impressed by the low-priced manual labor of Europe, but until one has seen, as I have seen, half-clothed, half-fed women, grimy and exhausted, shoveling coal and hauling ore, one has but a slight conception of the physical and intellectual degradation which extreme industrial competition brings about.

Taking two nations with equal national resources and equal labor efficiency, the competitive advantage is to that country with the lower wages and the lower standards of living. As I have said, American standards have been made possible by our wealth of resource. But our large contribution of food-stuffs to other nations is rapidly diminishing. We must, therefore, give more attention to that industrial efficiency on farm and in factory without which we cannot hope to maintain both successful competition and our present standards of living.

In a letter written by Lord Macaulay in 1857 questioning the permanency of American institutions, the following striking statement appears:

> As long as you have boundless extent of fertile and unoccupied land your laboring population will be far more at ease than the laboring population of the Old World, and while that is the case the Jeffersonian politics may continue to exist without causing any fatal calamity. But the time will come when New England will be as thickly populated as old England. Wages will be as low and will fluctuate as much as with us.

We are approaching the time, in respect to population, which Lord Macaulay foresaw, but we can avert his conclusion as to wages, if we properly train our people.

Our educational question is made more difficult by a million foreigners annually coming to our shores. While the history of the American immigrant is the history of American civilization, to the average citizen the immigration of the past is a matter of unread history, the immigration of the present is a subject of indifference, and the immigration of the future a problem for coming generations.

The problem of the immigrant of the "Mayflower" was the conquest of natural forces. The problem of the immigrant today is the conquest of human forces. Whether he shall prove a unit of strength, or whether he shall prove a center of infectious degeneration, will largely depend upon the education we give him and his children. It is sound public policy to see that the immigrant is not only taught our language as a preliminary to loyalty and patriotism, but that he receives an industrial training that will conduce to self-support, the basis of good citizenship.

The intelligent study of any social problem demands the full recognition of two basic principles of life: First, that the primary duty of every man is to gain a livelihood for himself and for his family. Second, that the character of every man depends upon his moral and physical fiber and upon his intelligence.

The price of life and advance is work, a fact true of all ages and of all conditions of men. The world owes no able-bodied man a living except as he earns it or his forefathers have earned it for him, and there are some who would even question the right to idleness on account of a competence inherited from others. But a man's earning power must be above the bare necessities of life if proper opportunity is to be given to his moral and intellectual growth. Further, it is clear that the greater the economic efficiency, in reason, the greater will be the chance for individual development.

I conceive, therefore, that the fundamental object of education is not only to promote moral and intellectual strength, largely thru increasing the economic efficiency, but it is also to bring each of these attributes of civilization into its proper relationship. There may be moral strength with inferior intelligence and high intelligence with low efficiency.

The educational requirements of one community will differ from those of another, and the educational needs of one period will differ from those of another period. But every educational system, if it properly fulfills its function, must be adapted to time and place, and its value will be largely measured by its practical application.

A few generations ago American life was essentially country life. Beyond the barest training in the three R's the educational efforts of our forefathers were bent toward fitting men for a professional career. Industrial activity was comparatively undeveloped and its needs were largely met by the apprenticeship system. The farmer with his diversified manual occupations found fairly satisfactory conditions in the educational methods

that existed. The professional and business men were adequately cared for by the old-fashioned American college.

Within a comparatively few years, however, changes have taken place unprecedented either in this country or in the world. America is today essentially an industrial nation with an industrial tendency becoming more intensified and accelerated. Country life is giving place to urban life, and an educational system which fairly met the needs of our forefathers is insufficient for our modern conditions.

This is not a criticism of American higher education, for I believe our opportunities are ample for professional training, be it academic or technical. It does mean, however, that the science of pedagogy has not kept pace with the needs of the vast majority of our people and mainly so because the elementary grades are not meeting the new requirements of our industrial condition. A short generation ago the industrial necessities of this country forced the establishment of the technical school for the training of industrial leaders. Today our industrial necessities are demanding an elementary training for industrial workers. The technical school has a splendid record of achievement but it is an achievement of higher education.

There are in the United States about eighty-eight million people. Assuming the average family to be composed of five members, and including the wife and mother as a bread-winner, there would be in a broad sense about thirty-five million wage-earners. Of these about one million are in the professions, and about one million occupy executive positions.

It is clear that our educational system should properly care for the needs of this large majority. Our elementary schools are inadequate and even our manual-training and high schools have largely been perverted from giving a practical foundation for the working-classes to one leading to the professions. Manual training has done good cultural work but as a means to a vocational end it has proved a disappointment.

The seriousness of the present condition is indicated by the fact that nearly 90 per cent. of our school children leave school before they are fifteen years of age. This is largely because our schools do not offer an education which will encourage, cultivate, and give a training that can be practically applied to their life's work.

There will ever be class distinction, but social differences are transitory, and in this country are marked by the right of achievement—not by right of tradition, much less by right of law. The leveling influences of education knock down all social barriers here.

The establishment of industrial institutions unconnected with our public schools first emphasized the possibility of industrial education. More recently the Society for the Promotion of Industrial Education, which stands as the organized recognition of a vital defect in our educational methods, has done able missionary work by its vigorous propaganda.

The legislation on this subject already enacted by various states shows the enlightenment of the public. The attitude of the federal government has been manifested by the lively personal interest of President Taft and Mr. Roosevelt and by the educational bills before Congress.

This country has been sleeping a self-complaisant sleep of confidence, born of stupendous resources. Meanwhile, old nations, like Germany, are rapidly becoming new by industrial education, while our New World will become old unless we wake. The ultimate aim of our public schools is the supreme purpose of producing the highest type of manhood and womanhood. Let us clearly understand that to accomplish this purpose reasonable individual efficiency as determined by reasonable individual earning power must be attained.

As long as 90 per cent. of the youth of our country progress no farther than the grammar school, just so long will an undue number become derelicts for want of educational encouragement and opportunity. No sane man will disparage any plan of education which seeks its culmination in the university. Nevertheless, the necessities of the many cannot be replaced by the opportunities of the few. Thousands of industries are sorely in need of skilled labor, tens of thousands of workmen are more in need of educational opportunity.

The efficiency of labor would not have to be extraordinarily increased to raise the earning power of the individual ten cents a day. Yet such an increase would amount to nearly a billion dollars a year and would pay our national debt in about one year's time.

While there will be honest differences of opinion as to the best means of giving our boys and girls their educational rights, mutual confidence and harmony must prevail in our endeavors. We have seen on one hand instances of short-sighted activity by the employer to fill the demand for skilled labor. We have seen on the other hand distrust and opposition from a part of organized labor. Proper vocational training appeals to considerations broader than selfishness or avarice and will not brook opposition born of mistaken self-interest or desire for restrictive monopoly. With fuller enlightenment has come a clearer conception of the fundamental issues involved and it is encouraging to find a broader and more intelligent spirit on the part of educators, organized labor, and employers.

Evidence of this is shown in the space devoted to this subject in the program of the present meeting of the National Education Association; by the action taken by the National Federation of Labor at its meeting in Toronto last summer; and by the action recently taken by the Commercial Club of Chicago. The Commercial Club of Chicago is a small but active organization of business men representing widely diversified interests and is a strictly non-partisan, non-sectarian body. For over thirty years it has been active in civic, state, and national affairs. Its last comprehensive work with the special aid of one of its members, Mr. D. H.

Burnham, was the conception, elaboration, and publication of the so-called city plan of Chicago, of which the original paintings were recently exhibited in Boston.

The club has for years maintained an interest in educational affairs and among its other activities established the Chicago Manual Training School, one of the first in the country. The experience so gained convinced the club that no system of industrial training could be permanently successful unless made part of the American common-school system. Acting upon this conviction, at a late meeting, it was voted unanimously to raise a fund to investigate European industrial schools. Mr. Edwin G. Cooley, for many years general superintendent of the public schools of Chicago, was engaged to spend a year or more in Europe for the purpose of formulating some concrete plan for introducing industrial education into the common schools of America. The club hopes thus to assist in the work being done by others in this important field.

I once heard Grover Cleveland say, "The country that we live in lives in us." What our country will be tomorrow coming generations must determine, but their decision will largely depend upon the education that we make possible for them.

DISCUSSION

Henry Abrahams, secretary, Boston Central Labor Union, Boston, Mass.—If a graduate from the Institute of Technology hesitates to address this audience, what must be the feelings of one whose Alma Mater was the trades union?

Slaves, serfs, citizens; absolute despotism, constitutional monarchy, a republic—such has been the evolution of man and government. A free press, free schools, and public libraries have developed the worker so that most of our people do not know him or his capabilities.

The trade union believes in a shorter working-day and a living wage. A living wage is sufficient to support a man and his family, and lay by enough for old age. Anything less is not a living wage. A combination of trade school and workshop is necessary to produce a mechanic. Organized labor indorses education of the worker industrially as well as along the lines of art and science.

Today a boy goes out for a job; it may be in a carpenter or a machine shop or to become a barber; the question of the aptitude of the boy does not enter into it at all—he has a job. We surely can do better than this.

The American Federation of Labor has declared for industrial education. Carpenters have done all in their power to assist the Boston School Committee in their efforts to establish a trade school. There is not an apprentice in carpentry in Boston, due to the refusal of employers to take apprentices. The plumbers succeeded in getting a clause in an agreement with employers providing for apprentices.

This shows the attitude of organized labor.

Charles E. Chadsey, superintendent of schools, Denver, Colo.—The discussion this morning seems to assume that trade schools have been accepted as a definite part of the public-school system of our cities, and that the only problem is to adjust amicably the relations between them and organized labor. While in our largest cities and in smaller cities where certain industries are of overshadowing importance it is doubtless easy to determine upon certain forms of trade schools for which there will be an assured demand, I question whether this is true of all our cities.

There are many cities which have no one industry or group of industries which can put forward a claim for trade schools which is in any respect stronger than that which might be made for scores of other industries.

When we realize that each trade school demands an equipment expensive in itself and expensive to maintain, it is not hard to see that there exist very practical obstacles to the immediate realization of trade schools supported by public taxation. Is it not, in fact, still debatable whether genuine trade schools designed to furnish highly trained artisans should in all cities be supported from the public-school budget?

That some type of industrial school designed to open the way for more judicious selection of his life-work by the boy is necessary and practicable, I feel assured. That we are approaching the time when every city will support trade schools of all the different types for which there might be possible demand, seems to me to be inconceivable.

Thomas W. Bicknell, 207 Doyle Avenue, Providence, R.I.—The discussion of the morning with reference to education and labor both interests and surprises me. Our public educational system has been made a pack-horse for a multitude of social and economic burdens, and now the demand arises from labor officials that courses of education shall be so thoroly specialized that pupils shall be taught carpentry and plumbing and masonry and dressmaking and store-keeping and blacksmithing to such an extent that they may be qualified to enter upon these trades or lines of business on leaving school. Still further, we are told that the young people are to be classified by the labor leaders and that the exact number of such boys and girls to be so educated shall be determined by some supposed law of local supply and demand. Boston must turn out annually so many "butchers, bakers, and candlestick-makers."

Now, in the course of a long life of experience in educational affairs I have never listened to the expression of theories of education so perfectly absurd and un-American, for if there is any doctrine for American democracy that holds good over all others, it is that America is the land of splendid opportunity, and that the doors of our public schools swing on easy hinges, wide and free, for the youth of our land to prepare by school studies and discipline for any business or occupation they may choose "with none to molest or make them afraid."

To add to these strange doctrines we also hear another that each youth must be taught in one school the whole round of the trade or business; a watchmaker must learn how to make the whole of a watch, a machinist all the parts of a steam-engine, a house carpenter and a mason all the details for a dwelling or a cathedral. Doctrines and theories of such monstrous proportions must astonish all sane and sensible educators.

At the meeting of the National Education Association at Madison in 1884, in the Presidential Address I gave a review of "industrial education," as seen from my standpoint at that time. I believe the conclusions I then reached are as sound and as applicable today, as twenty-six years ago.

THE CREATIVE METHOD

"The creative method" which makes an elementary training-school subserve intellectual uses, the elevation of the tastes, and the formation of character, is undoubtedly the true one, and this principle determines in a large measure the methods of introducing manual training into the educational work. The common school has no specializing functions, and can only aid in the industrial processes in an indirect and general way. School life is too brief and its opportunities too limited to expect that a youth shall come forth from the school full-armed for the battle of life, as Minerva from the head of Jupiter. Whatever can be introduced into the school curriculum that aids in gaining mental, physical, or moral power is right, proper, and excellent. All else should be dispensed with.

PRACTICAL CONCLUSIONS [1]

1. That the mercenary or mercantile motives for industrial or manual training as a part of the common-school curriculum are giving way to a true educational theory.

[1] Annual Presidential Address, 1884.

2. That the introduction of the workshop into the schoolhouse is a poor makeshift for industrial education of any sort.

3. That the short school life of the average American child demands that up to the age of fourteen, he should be held closely to the cultivation of the powers of observation, and "a scientific habit of thought and investigation," with a broad foundation of elementary and special instruction.

4. That it is of the utmost importance to technology that reforms in methods of teaching the common branches of knowledge in the common schools should be urged most strenuously. This is the thing to do, rather than lunge off into manual training. What the polytechnic can do for young men depends as much upon what they bring to her door as upon what they draw from her stores.

5. That by some discreet pruning a place can be made for instruction of all boys in the grammar schools, in the six mechanical powers; this is a kind of knowledge that they need take hold of greedily and find very useful. The necessary apparatus can be bought for $20,000 for each school.

6. That the establishment of free manual-training schools, as at Baltimore and Chicago, seems to point to the true solution of the difficulties which beset the problem of securing an increase of skilled labor.

7. That the establishment of apprentice schools, like those in Paris and other parts of France, is the real need of the time. Dr. Philbrick, of Massachusetts, in writing of one of these schools, says: "The school located on the Boulevard de La Villette in Paris, which was opened in December, 1872, is the best school of its kind in the world. It has passed the period of experiment, and the city authorities have decided to establish schools of a similar type in the different industrial sections of the city. This is a real industrial school of the handicraft type. It is for boys who have completed their elementary education, but do not aspire to a high-school education. It is for the benefit of the great working-class. It is designed to form the skilled artisan—not, indeed, to complete the training required for the finished workman, but to carry the apprentice far on his way to this goal, on which his eye is fixed.

8. That colleges and special schools should adopt their instruction in techniques and scientific methods to the local wants of the communities where they are established.

DEPARTMENT OF KINDERGARTEN EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—Miss Luella A. Palmer, kindergartner, Public School No. 63..New York City, N.Y.
Vice-President—Miss Willette Allen, principal, Kindergarten Normal School ....Atlanta, Ga.
Secretary—Miss Lucy T. Ellis, principal of Phoenix Kindergarten .....Phoenix, Ariz.

FIRST SESSION.—Tuesday Morning, July 5, 1910

The Department met in joint session with the Department of Child Study and the Department of Elementary Education. For program see Department of Child Study. Topic: "The Special Child."

SECOND SESSION.—Thursday Forenoon, July 7, 1910

The Department met in Normal Art School.

The second session was called to order at 9:30 A.M. by the president, Miss Luella A. Palmer, who acknowledged the gavel presented to the department by the second-year class of the Mechanic Arts High School. She then introduced Miss Caroline Aborn, who gave a short address of welcome.

It was moved by Mrs. Page, of Chicago, and duly seconded, that a hearty vote of thanks be given to the donors of the gavel to the Kindergarten Department, and the vote was unanimously adopted.

Notes of greeting were read from Mme. Kraus-Boelte, Dr. Jenny B. Merrill, and others; also various notices and invitations to kindergartners.

The president appointed as a Nominating Committee Mrs. Mary B. Page, of Chicago, chairman, Mrs. Harriman, of Boston, and Miss Norton, of Milwaukee; the committee to report at the close of the session Friday morning.

Papers were read by the president, Miss Palmer, Dr. Amy E. Tanner, Department of Experimental Pedagogy, Clark University, Worcester, Mass.; and Miss Caroline Crawford, Physical Culture Department, Teachers College, New York City.

The president then invited a general discussion, and introduced Miss Ruth Norton, of the Milwaukee Normal Art School, who was followed by Miss Ruth Tappan, of Brooklyn, N.Y., and Mrs. J. H. Phillips, of Birmingham, Ala.

Moved, seconded, and adopted that Miss Palmer's paper be printed in monograph for circulation.

THIRD SESSION.—Friday Forenoon, July 8, 1910

The meeting was called to order at 9:30 A.M., at Normal Art School.

Notices, greetings, invitations, etc., were read by the president.

Miss Ada Van Stone Harris, assistant superintendent of schools and superior of kindergartens, Rochester, N. Y., read a paper on "The Test of a Child's Kindergarten Training."

The second topic was "The Kindergarten Out-of-Doors," and papers pertaining to this subject were read, as follows:

"Gardens," by Miss Anna C. Harvey, Adelphi College, Brooklyn, N.Y.

"Walks and Excursions," by Mrs. Alma O. Ware, principal, South Bend Kindergarten Training School, South Bend, Ind.

"Open-Air Sessions" by Miss Margaret M. Colton, principal, Grove Street School, Providence, R.I.

The Nominating Committee reported as follows:

For *President*—Miss Jane Hoxie, Berkeley, Cal.

For *Vice-President*—Miss Anna Stovall, Supervisor Golden Gate Kindergarten Association, San Francisco, Cal.

For *Secretary*—(Vacant).

The report was adopted.

A paper was then read by Miss Lucretia Jones, El Paso, Texas, on "Gardens out of Doors."

Discussions followed.

LUCY T. ELLIS, *Secretary*

PAPERS AND DISCUSSIONS

THE PRINCIPLE OF DEVELOPMENT AS THE BASIS FOR KINDERGARTEN METHOD

LUELLA A. PALMER, KINDERGARTNER, PUBLIC SCHOOL NO. 63
NEW YORK CITY, N.Y.

It is not possible, within the limits of a few hundred words, to treat with any degree of exhaustiveness either the theory or application implied in the title of this paper. The principle of development is the core of the world's history. Our particular problem is concerned with two years in the development of a human being. The wider view of the principle must be treated very briefly in order to place the emphasis upon our special work.

Three main points will be considered: first, a few of the laws of the principle of development that seem to have a very direct bearing upon the kindergarten; second, these same laws as seen in the growth of the human being; lastly, the conscious relation of these facts to the promotion of human development between the ages of four and six.

We accept as an axiom that the world is developing; it has in the past, is apparently doing so now, and we have faith to believe that it will be in the future. Some of the signs by which the world has progressed are as follows:

1. Every developing body starts each moment from the point which is the *result* of all past accumulations. It is not the sum of past accumulations; the later additions may have modified the earlier composition so that what has seemed a quantitative increase has produced a qualitative change.

2. Any present result becomes enlarged by coming in contact with material that can be assimilated. This material may vary in its developing possibilities. If it is exactly similar to the body with which it comes in contact, the new merely enlarges the old, leaving the whole but slightly altered; but if the new material be unlike the old, and, at the same time, one which will bring about some possible change in the first body, the combined whole may take on new characteristics, and a new capacity for further change may result. Thus the second kind of material generally aids in more rapid progression.

3. The new material must be assimilated and become an organic part of the whole or it will not add to the developing power of the old. Anything that is not immediately usable in some need of the new whole, becomes a drag rather than an assistance.

4. Nature develops an organism in all directions possible. She emphasizes the growth of the highest capacity; sometimes this becomes overspecialized and the type ceases to grow. Some form which has kept more equable development of all its parts, and is therefore more unstable, is found more adaptable to conditions that call for change; this latter form will push farther along in the line of evolution. Nature insists that each organism shall gain developing power only in so far as it feels the necessity and unity of all its parts. The higher must aid those which have helped to raise them to their present place.

5. Nature has a goal, one at which she is arriving every moment, from which she departs every moment, toward which she is constantly aiming. She is the complete unity where process and aim are one. The goal is development; the process is development. This is the only dynamic method.

Let us consider these five laws as specially applied to human development.

1. Each human being must start at any moment from the point to which his peculiar heredity and experience have brought him. The ordinarily normal person has inherited a certain common physical form as well as certain interests and capacities. Yet each one has something unique in his heredity which marks him off from every other individual. These inherited characteristics are gradually combined with experiences, the sum-total of which differs for each individual. Each human being can develop only from the point which is the result of his particular inheritance modified by his particular experiences.

2. Since heredity cannot, of course, be changed after birth, experiences are the only developing agents, and are therefore the only material that man can assimilate. The new experiences which can be assimilated must have something in common with past experiences or with some latent interest or capacity of the individual. If the new is on the plane of previous experiences, very little extra energy will result; but, if it is enough unlike to modify interests or develop capacities, to change the attitude toward life, the new experience has in all probability helped toward progress.

3. Experiences that do not satisfy some immediate need of the individual are unused and therefore of no value in his life. Those which are available for present necessity acquire power for developing more power. The needs of an individual which must be satisfied vary greatly, but, unless the case is abnormal, they would differentiate into needs for more facts, more beauty, more social participation, more faith. These desires of the expanding human nature, if rightly met, may lead to the acknowledgment of the values recognized by society as of supreme worth: truth, beauty, goodness, faith.

4. In the progress of the world, nations have come and gone. In each case, the cause for the decay seems to have been the overdevelopment of some one side of man's nature. Concentration makes man progress rapidly in one direction, but a slower rate with well-rounded development produces a creature variable enough to continue in the line of development. If nature's laws are read aright, man's higher powers, mentality and spirituality, must not be developed at the expense of what sustains them. The physical and social phases of man's being will be raised to a higher level when viewed as means by which the higher develop. Man will continue developing only as a unified whole.

5. When man becomes conscious of nature's goal and works in accord with her method, he makes the most rapid advance. Man, like lower organisms, can develop; but, unlike them, he can consciously develop his developing power. He can project a goal and pull himself ahead by selecting means to arrive at it. He can select a moving goal that will grow with his growth. He can gain the attitude of believing that any result accomplished is but a step toward something higher and better.

Our problem in the kindergarten is: (1) to know where to start with our

children, what inheritance and experience each child has had; (2) to select new experiences, like and yet different from the old, which will respond to his needs and develop his interests and capacities; (3) to plan how these experiences can be put to immediate use in order to gain developing power; (4) to study how a unified and therefore fully rounded product can be obtained; (5) to learn how we can help a child toward a consciousness of his developing nature and toward selecting means to realize it.

1. Each child begins in the kindergarten with the result of his peculiar heredity and past experiences. Is there any common starting-point for these vastly differing individualities? They have inherited growing bodies, minds, and souls, but in different kindergartens and even in individuals in the same kindergarten there may be great difference in the stages of development. But we should not plan our programs upon the divisions of the old faculty psychology—physical, mental, spiritual. Bodily expression should be organized by the mind and spirit if the child is to feel himself developing as a unity.

What is the common ground upon which to start? Certain capacities and interests have been inherited by all children. They have a capacity, a possibility, of developing in all phases of human nature—scientific, æsthetic, moral, and religious. They have certain interests that generally appear at kindergarten age; Froebel calls these "talking, drawing, playing." These are the common interests and capacities, but both are variable because they have been retarded or developed by the differing experiences of the children. The little foreigners may be just learning the language and only desire to name things and activities; other kindergarten children may have such good control over words that they wish to play with them, to rhyme. The children of busy parents may have had few opportunities to express ideas thru the hand and few chances to gain ideas; others may have had rich experiences and much help in telling about them manually. Some children may have had opportunities to relate their ideas thru social play; others may be still in the individual stage where only the toy is necessary without other children.

Fortunately for the peace of mind of the kindergartner, almost all children have had a few experiences in common, and those that are gathered together in one locality are nearly all alike as regards opportunity for experiences and their expression thru language, handwork, and play. She can make her starting-point one which will touch most of her children, altho, as her program develops, it may be different from that of any other kindergartner that she knows, because she must adapt it to the needs and interests of her own group.

Some of the common experiences that may be used as topics of the program are: the new experience of coming to kindergarten and associating with a group of children of equal age, the home and its members, forces of nature, sun, wind, rain, etc., changing seasons, festivals, members of the

community who serve and guard the home directly and indirectly. These last three topics would differ greatly in treatment in different localities.

It is well to bring to the children, or take them to, some new vivid experience that there may be some common knowledge and interest for all as a group.

2. The second law of human development, as seen in its more progressive form, gives one-half of a workable rule for the selection of what is to be considered in the kindergarten. If more experiences are given of the same kind as the previous ones, there is little developing power as a result. Yet the new experiences must not be so different from the former that they will not appeal to the child. Much that we have hoped would educate kindergarten children has been too far afield from their real interests. We must use what the children have already experienced, or, when anything is taken up with which they have not come in actual contact, we must be careful that the experience can be built up mentally by the rearrangement and new relating of what they have actually experienced. But children of kindergarten age are not adepts at abstracting and re-relating, and allowance must be made for their immaturity.

3. The second half of our rule for the selection of program topics is, that the subject taken up, or experience given, must be capable of developing the child in all phases of his nature. What is he trying to do in his search for truth, beauty, goodness, faith?

With regard to gaining knowledge of facts, he is trying to *relate* things in his environment. At a later period, he delights in storing up facts as facts, the mere activity of the memory meets his need at that time. At other periods, facts must be called for by some necessity of living in order to become vital. Knowledge, as such, is unused experience that has no developing power; wisdom is knowledge that is seen in its relation to the affairs of life and results are seen in character. The child already defines things in terms of active relation, of use; and we discourage it, we try to make him classify on the basis of squares and circles or ones and twos. He thinks that God sends the sunshine so that he can enjoy the picnic, that the baker bakes bread for him to eat, that the paper is something out of which he can make a wagon. The relation, the use, is self-centered. We must help him to see the usefulness in a broader aspect, in its relation to his playfellows, and to their families. Later education should show the relation to an increasingly larger community. To aid the child in his search for truth, there must be a selection of his experiences and a choice of those that show in the best way the relations between God, man, and things. We must help him to relate upon the basis of meaning, for the true meanings of things are those relations that they bear to each other and to man. In the realm of the spiritual world, the relation or meaning to be brought out in the selected topic would be God's love and care; in the social world, it would be interdependence and co-operation; in the material world, quality and usefulness.

The experience selected should be capable of being shown as having a beautiful side. In language, its meaning should be given by song and story; in concrete material, by picture or other form; in play, by game or dance.

The experiences should be selected because they suggest some form of social activity for the little kindergarten group which in their reliving can elevate the ethical standard. There is a great difference between talking about social activity and actually living it; the latter is the means of vital education.

Experiences should be selected because they give a deeper understanding of the wisdom that governs the universe.

Let me sum up briefly the relation of the first three characteristics of the principle of development to the method of the kindergarten: It will mean that the program will be based upon some actual experience of the children, either present or past; selected because it can be organized thru the children's interests in the activities of "talking, drawing, playing," upon the basis of the individuals' need to expand upon all sides of his nature, which leads to the recognized social values of truth, beauty, goodness, faith.

4. Our children will have well-rounded development and be capable of adaptation, which means continuing development only in so far as they feel the necessity for, and unity of, all of the different sides of their nature. The core of the unity should be the child's own experience. Every experience, that is, every idea, should find expression thru all different channels. Every activity, while emphasizing one phase of the child's nature, should partake somewhat of the others. This means that, given an experience, language in some of its forms should show the scientific, æsthetic, moral, and spiritual values. Handwork should record its scientific æsthetic, and moral values and play should give expression to these same values. A rhythmic movement, for instance, should seldom be made just for its own sake, but should find its meaning by being brought into relation to some idea. Language should recall to the minds of the children what they know of the subject that is to be expressed rhythmically; then they should strive to control their bodies to give expression in as true and beautiful a way as possible. Handwork should be done not only to show increasing control of materials, but this control should serve the higher purpose of expressing more true or beautiful ideas. The growth or organization of ideas should be the core, if unity is to be preserved, and the growth in control should be sought in order to give adequate expression to the ideas. Many logical steps in technique can be omitted if material is used as often as possible, in its right relation, as a channel for the expression of ideas. The highest type of stimulus is not concrete material but thought material.

5. During the kindergarten period the children grow in their consciousness of being able to pull themselves ahead. There are three attitudes that

can be cultivated which will help the children to develop this power and become more conscious of it: (*a*) the attitude of learning from the outside world; (*b*) the attitude of having a purpose and selecting means to carry it out; (*c*) the attitude of following where a wise guide leads.

The first attitude is on the plane of the animal world, the second is reasoning and develops human characteristics, the third develops faith and is spiritual in its essence. In language the child should be encouraged to increase his vocabulary; to tell his ideas and choose the right words to convey his meaning; to listen to good stories and rhymes and sometimes repeat them. In handwork, the children should be allowed to experiment with material and learn its possibilities; to hold an idea so vividly that they struggle to express it in the right way by choosing material and the way of manipulating it; to imitate what they have seen that is true or beautiful. The children can develop these three attitudes in play (*a*) by trying to test their ability to relate in imagination; (*b*) by starting with an idea and organizing a game; (*c*) by learning a game from one who leads.

When children—or adults—struggle for expression, they generally purpose to do one of three things with regard to their idea: (*a*) to learn something more about it; (*b*) to record what is already known; (*c*) to show its beautiful aspect. In handwork, we would call an occupation which allowed for the further investigation of the subject a constructive occupation; the second would be graphic; the third, æsthetic. The children should take the constructive occupation home in order to fulfill its purpose. In the graphic occupations, the children should be allowed to tell their story as fully and relatedly as possible. The æsthetic occupations should produce lasting results. Books which the children take home at the end of the year should record the beauty side of every topic, not only in a concrete way, but should suggest the other beautiful aspects in language and rhythm. The children's choice of coloring and arrangement should make the picture an artistic one from the child's standpoint, and should remind him of beautiful stories and songs. In this way, the cultural side of the children's work can be emphasized. Books which show progress solely in manual skill lay stress upon labor; those which show progression in number and form emphasize the scientific; neither of these rises to the level of the artistic which must be based upon beautiful thought.

The kindergartner, in all her relations with the children, should assume the attitude of accepting for the present the result of faithful effort but looking for something better at the next attempt. In discipline, in handwork, in play, at every point of contact, she can develop this attitude in the little ones. The test of her work should be whether it has enriched the life of the children. Has she given new and valuable experiences; has she deepened the meaning of the child's own environment; has she shown as much of the truth in it as he is capable of discovering; has he felt its beauty; has he acted toward it in the best way that he knows and can find out; has he had

intimations of a controlling love; has he been left with an attitude of striving to gain more experiences along these lines? Browning says:

> This world's no blot for us
> Nor blank; it means intensely, and means good:
> To find its meaning is my meat and drink.

Do the children leave the kindergarten with this feeling pervading every fiber of their beings? If so, the principle of development has been the basis of the kindergarten method.

THE CHILD AS THE CENTER OF CORRELATION IN THE KINDERGARTEN

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Not geography nor nature-study, nor history, but the child; not the adult, nor adult theories, nor Froebel himself, but the child, is the center of the kindergarten, as well as its source. To see children as they really are and not according to our preconceptions; to live with them instead of making them live with us; to become as little children ourselves instead of forcing them to be wizened adults—this is our present ideal. In the past we have overemphasized the oak that lay hid in the acorn. True, the acorn may become a tree, but not without a long process of growth, with much kindly nurture from sun and water and soil; and he who merely emphasizes the unity of seed and plant is falling into a mysticism in which distinctions become meaningless and the incentive to action and effort is lost. The transformation of the one into the other—the growth process, the development from relative simplicity to complexity—is the fascinating and meaningful thing.

Today I wish to call your attention to three quite disconnected characteristics of kindergarten children which are being much emphasized in current discussion.

1. First, hygiene in the kindergarten. As you all know, one-fifth of our total death-rate is with children under five years, and the rate diminishes rapidly after the beginning of the second dentition. Various writers, among them Dr. Burnham in the *Kindergarten Review* for October, 1904, have pointed out that this is in part because the young child's skin has a different structure from the adult's, and he has fewer phagocytes in his blood to destroy dangerous bacteria. He is especially liable, therefore, to contract skin and germ diseases, and such diseases are more fatal, in proportion as he is younger. All the common children's diseases—measles, whooping-cough, diphtheria, mumps, etc.—rage with especial virulence among little children, and every year that an attack can be postponed gives the child more chances of recovering, and of recovering without any permanent bad effects. The old idea that children must have these diseases

and should get over them as soon as possible, is now exploded, and progressive hygienists are devoting their efforts to saving the children from having them at all.

While, therefore, sanitary schoolrooms and closets, individual drinking-cups and towels, etc., are desirable all thru our schools and colleges, they are far more so in the kindergarten, and the kindergartner, more than any other teacher, should be well informed as to the symptoms of these common contagious and skin diseases, and on the alert to discover them. If her children get measles and diphtheria, they will have worse attacks and more of them will die than in any other school grade. She takes far more responsibility upon herself than do teachers of older children, if she is neglectful of sanitation.

Every kindergarten training-school ought to have a course on the common children's diseases, their symptoms, the best ways of preventing epidemics, the treatment of a child displaying suspicious symptoms, etc., and whenever possible these lectures should be illustrated by visiting hospitals or cases, to give the kindergartners first-hand knowledge. It would also be highly desirable for the kindergarten magazines every now and then to publish accounts of the common diseases, with the best methods of dealing with them.

2. To the child between three and six years, family relationships and the new baby seem to be very puzzling things. At first he thinks, like primitive peoples, that all the people under one roof—or at least in one flat—make up the family. All the men are fathers; the one who does the housework is the mother, and if the real mother dies or visits and is replaced by someone else, the child sometimes calls the substitute his mother. Contiguity, that is, is the basis for reckoning relationship. Or it may be created by the exchange of gifts, as when two children believed that giving a dog from one family to the other somehow made them cousins. Again, how can the mother be also an aunt? Or the child himself be cousin to one person and nephew to another? So the child gets the idea that relationship is a variable, and may think that when his mother's hair turns gray she will be his grandmother; or that when he grows up he will be her husband.

Closely connected with this is the idea that growth is a cycle, so that grown people will sometime become small, and children were once grown, that sex changes with age, etc. These are not uncommon ideas, but, on the other hand, we also find some children much surprised to learn that their mother has a mother; their teacher, parents and home. In all these cases, that is, the child's ideas depend upon what he sees about him, and so are largely based on superficial resemblances and chance co-existences.

Of the great facts of heredity and blood relationship he has no glimpse, altho at four and five there seems to be a period of much questioning and close observation about the new baby. By this time most children have learned that plants and animals come from their like, but they know little

about the details, and so any part of the plant may be considered the possible parent. Children plant leaves, flowers, etc., expecting to get new plants; and, reasoning from analogy, they plant hen-feathers, sardine-cans, and even, as in one case, a rubber boot full of kittens, in the longing to have more. But they are not allowed to carry out their analogies and thinking with respect to man, for they are taught both that man is made of dust and that the doctor or stork brings the baby. So of course the baby is often regarded as an interloper, the idea of relationship is repudiated, and sometimes, when first seen, little brother is classed as an animal or a doll.

It has been a great surprise to me to see, in these returns, the number of questions asked by little children about such things, but it fits in well with what the Freud school of physicians is now telling us. Their studies both of children and neurotics have led them to the conclusion that this question of the origin of life is a serious problem for the child between three and six years, and that if his questions are not satisfactorily answered, he is altogether likely to suffer from considerable nervous tension, and to go thru a period of distrust of his parents and dislike of his little brother, besides possibly laying the foundation for various abnormalities which will appear openly at adolescence. On the other side, we find those concerned with the problem of adolescent sex-instruction saying that if the adolescent knows nothing at all about the origin of life, knowledge first given at the late age of thirteen or fourteen comes with so much of a shock and is so vitally and personally related to the feelings and organs then rapidly developing, that in the heat of feeling and passion the complete truth and its sacredness may be lost. That is, students both of the adolescent and of the little child are coming together in the belief that the little child is not yet self-conscious about such matters, and that knowledge given him about the mother's part in the origin of life is absorbed and assimilated without any strong personal feeling entering, and becomes, as it should, a part of everyday fact. Usually the little child is satisfied with this much information and questions no further. Then later on, at adolescence or, some would say, at nine years, the completer knowledge may be wisely and delicately given.

This point of view is now being advocated by various careful students of this problem, such as Dr. Prince Morrow and G. Stanley Hall. It puts upon the kindergartner and public-school teacher a grave responsibility. No one can question that the parents, if properly qualified, should be the ones to give such instruction to their children, but what shall we do when they are not qualified? More especially, what shall the kindergartner do when such questions come up in the circle or in talk and play with individual children? It is dangerous for us to lie to children about the origin of life, and still more so to leave them to the knowledge gained on the street or from other children. We cannot even stop by giving them the flower analogy, since on that basis they plant their pets and may think that planting themselves will produce a new crop of Johnnies.

This much at least kindergartens should do, should they not? Whenever there is opportunity, they should impress upon mothers the importance of telling their children about this matter when the child questions, and they should be themselves so informed that they can advise mothers as to what to tell. When individual children question the teacher, the teacher must decide in each case, from her knowledge of the mother and the child, whether to send the child to his mother or tell him herself. But never should she put the question aside as of little importance.

3. Thirdly, I have a somewhat complex point to make with regard to imagination on one side, and memory, perception, and toys on the other.

I am coming to the conviction that little children are not nearly as imaginative as we give them credit for being. They do indeed have bizarre, amusing, and picturesque combinations of ideas, and they believe readily in fairies—but why? Is it not because, with their limited experience, they have no standards by which to distinguish the probable from the impossible? Partly, too, it is difficult for them to separate their vivid ideas from memories; and, again, their narrow experience and their predominant motor and visual interests lead them to emphasize resemblances which our adult view of the wider relations of the object has obscured. But how difficult it is for little children really to imagine vividly and with interest for even a short time, the listless occupational games in many a kindergarten bear eloquent witness. What we call the imaginative plays of children are largely imitative in origin, and can become imaginative only because the activities involved are very familiar. If the little child led us, we should go directly to his everyday life for our kindergarten material, for when he plays freely, he plays what goes on about him.

Here, then, is the point which I wish especially to make: in the occupations, the plays involving animal activities, etc., is not the kindergarten relying far too much upon the children's memory and imagination, and giving them far too little sense-material? It is a truism to say that children cannot imitate what they do not know, and yet everywhere kindergarten children are made to play blacksmith, shoemaker, etc. Of course the kindergartner tries to take them to see the blacksmith, but usually she can only do this once, and then everything is on so large a scale and the experience is so exciting that the children are likely only to be confused. Is there not needed in the kindergarten a more complete equipment of the tools and implements used in the fundamental life occupations? Suppose that there were a forge, anvil, and hammer, so that the children could play with them and get the really correct movements, what a different thing the blacksmith song would become! It would be comparatively easy to have the simpler agricultural tools like the rake, hoe, and spade, and thus all these plays would be greatly vivified and enriched. Many kindergartens already have the playhouse, fitted up with furniture and dolls, but this is only the beginning. The same thing should be done in all activities imitative of real life.

This, I am well aware, would involve new toy factories, but is it not time that manufacturers took account of the educational possibilities in toys? Such toys should be large enough to be a fairly accurate reproduction of the real thing, but not too large for the children to handle easily, and it is especially important that the parts should be correctly proportioned. They should be so made that they can be taken apart and put together without damage, and strong enough so that they can be used. Such toys in the kindergarten would lead directly on to industrial training in the grades, and, vice versa, where there is industrial work in the grades much of such kindergarten equipment could be made by the grade children with the keenest enjoyment.

Will such toys stifle imagination? Far from it. All adult reasoning and activity, the whole volitional and moral life, are based upon perceptions and memories of them, and early childhood is the great period of perception. Then the child's senses are hungrier than ever again, and the impressions then received underlie and bias all the later ones. At this early age, also, imitation is stronger than ever again. It is therefore the golden age for feeding the child's hungry mind with the sense-material which the race has been using ever since it became human, and with those common tools of the hand which have made the hand the tool of thought. Winteler's, Meumann's, and Ziehen's studies seem to show that the children who are most imitative and who have the most sense-material to play with are the ones most likely to develop talent later. The reason is plain. They have more memories on the basis of which to infer, imagine, and reason. The child with little sense-material can at most only combine his few and poverty-stricken images into simple and commonplace forms. That is, imagination and sense, imitation and invention, far from being opposed, are interrelated at every point. The most imaginative and inventive man is always also the one who is most docile to the leadings of sense and experience, without being servile—and that is what we mean essentially by "free play" and artistic activity, the mind working spontaneously upon rich and varied sense-materials. Then alone have we the conditions for making a master-workman, a great artist, or a complete man.

ÆSTHETIC DEVELOPMENT OF CHILDREN AT THE KINDERGARTEN PERIOD

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The change that has come about in the educational viewpoint has affected not only the practical and scientific aspects of education, but promises to modify and reconstruct the æsthetic and cultural phases as well.

We demand every branch of activity to prove itself with an emphasis never before realized in the educational world. The very term "fads and

frills" seen so often in the daily papers is significant in a vague way of the logical process at work in the socialized consciousness. And to no other subjects so much as to those which come under the general title of art do we find given this particular term of derision and reproach. This usage is in itself proof that we are no longer satisfied with the once-accepted reasons for the teaching of the arts, nor have we, on the other hand, fully arrived in consciousness as to the practical everyday value of the arts in this work-a-day world.

Such a statement as this often brings out a challenge from those who have given their lives to the support of the cultural factors in education, and who feel that to recognize the questioning attitude which is abroad begs the existence of any acknowledged value in the æsthetic side of life. It is not that the values of the arts have disappeared—values like these do not disappear—but they have changed their base; and this shifting of the ground is due to the forces which are pushing us to justify the arts from the evolutionary aspect of life.

From this standpoint two conditions are demanded in the treatment of any subject—first, its function must be stated in terms of the process of growth. It must be shown to be a necessary as well as a merely desirable feature in the life-history of the individual. As an isolated and insulated activity is a useless thing, its position and value can be determined only by finding its very definite and practical relations to all the other phases of experience. Second, every subject must be treated as dynamic. Somewhere, it has a starting-point as a psychological process. That beginning and the consequent phases of development become increasingly important as the shifted base is realized.

Socially, we have become conscious of the first condition, and while we have gone far beyond Spencer's statement of the value of the æsthetic education when he said that play and art were alike in that both were useless so far as the great ends of life were concerned, there remains a constant questioning of the use and value of the arts. The position finally accorded them will depend upon a definite study of the second condition. We are still working upon the beginnings of the æsthetic instincts and their development in a most fragmentary way. We recognize vaguely some relation between play and art and we insist upon the child's right to play because such activity is instinctive; but we are yet attempting to define the process of development of these activities in such a manner as will unify the practical and æsthetic elements.

Believing that the further defining and clarifying of the second problem will cause the first to disappear, this paper is an attempt to show the beginnings of the æsthetic instincts, and the phases of their development during the earliest years of life. The first period of growth represents a time when the child is mastering, in the sense that he is experimenting with, certain co-ordinations which give him a partial acquaintance with many

things. His reaction is directly to the thing presented, and is usually of the duration of the presented object. When that disappears the response fades away, and not until the thing itself is again presented to the senses is there a renewed activity. With the repetition of these experiences there gradually develops a control of the activity which is combined with the establishing thru the continued functioning, a value, which we call an image, and which is due to the qualities acquired thru function. These values, or images, change from day to day, from year to year, according to the what and how of experience.

But gradually another manifestation appears. The response to the image is not so direct, a part of an old experience will suggest all of it; then one image will suggest an activity related to it. A stick becomes a horse to mount. One broken dish will furnish the imagery necessary for an elaborate dinner. To a little child, one swallow almost makes a summer. Such a process as this goes on until all the activities which are prominent in the previous time of growth are tried in relation to each other. The images are played together in many forms. The constructive instinct is seen at work in this tendency to try out and find relationships and values. All of the child's doings and all of the actions of the people about him are *molded* into *plots*. This second period of growth becomes, then, a time when images are known as they are measured in proportion to each other. They become parts in related wholes. This constructive tendency which shows itself in plot-making, or the building of a whole out of parts, has been misunderstood in the past because we were not sufficiently familiar with the earliest form of expression. The child's first language is the use of the action itself with which to represent his image, then the most emphatic part of the movement is made the symbol of the activity. And this gesture-language (if we use the term in its large sense) is deserving of far greater study than has yet been given to it. The child constructs with movement language while he is gradually building up a translated language of sounds associated with these activities. All sorts of objects are used to help out the plots, and to keep his images before him. One recalls Stevenson's famous description in his essay *Child's Play:*

> We grown people can tell ourselves a story, give and take strokes until the bucklers ring, ride far and fast, marry, fall, and die; all the while sitting quietly by the fire or lying prone in bed. This is exactly what a child cannot do, or does not do, at least, when he can find anything else. He works all with lay figures and stage properties. When his story comes to the fighting, he must rise, get something by way of a sword, and have a set-to with a piece of furniture until he is out of breath.

As he becomes more expert in his expression the child drops the objects and carries his related images along with movements and sounds (words and tones). Rhythm then begins to play an important part. And this plot-making, which in its first forms we call the *dramatic game*, is the beginning of the expression of relationships, or values. As such an expression,

it is also the earliest art in the child's life. It is important to note that these related images are first chosen from the child's own experiences. It is here in the playtime of life that æsthetic education begins.

This very important *dramatic game* has been looked upon with a varying degree of indifference by three different sets of teachers. In literature it was scorned as played by children, then teachers suddenly tried to make the jingle of Mother Goose rhymes, which represent the dregs of folk games and dramas, stand for the beginnings of literature. Teachers of music discounted the old melodies partly because they were considered too simple for musical form, and partly because they were written in old modes and therefore not understood. And teachers of physical education, looking for muscular exercise in all forms of activity, have not even recognized any different end to be attained in the dramatic game than there is in the game of skill.

It remained, therefore, for the kindergartners to preserve the older games for us, but even they have been forced by the social pressure to study the game, not as an art form, but as recreation and exercise. We find dramatic games classified, therefore, according to the form of playing, or the subject, or even as exercises for the different parts of the body.

We wish to suggest the principles in the arts of representation as they are illustrated in the evolution of the dramatic game, and show how the composition of the plot develops in complexity of dramatic structure and mode of expression. When the images expressed reveal only the moods of a plot, we find the earliest forms of the dance. This representation is thru what we often call rhythm. The child walks and runs, leaps and hops and whirls. If we see these movements without relation to the mood involved, it seems far-fetched to speak of a plot. But watch a child and you will always see cumulative effect in the repeated movement. The climax may come very soon, and the movement fade away, or there may be a whirling climax to the drama. The representation of joyful or sorrowful moods is always found to have the same relations of beginning, middle, and end, that we find in the highly evolved dramas of grown-ups.

Froebel's *Mother Play* is a fascinating study of the simplest plots in dramatic contrasts presented thru pantomime and gesture. Think of the plays in which the child relates such fundamental things as up and down, toward and away from, here and away, coming and going, fast and slow, sweet and sour, etc. Then we have representation in which the image is more closely defined by contrasting different parts of the body, as hands and feet, hands and head, etc. Many old folk games of these forms are to be found.

The element of surprise enters into the plot in many ways. One of the most familiar is when one child suggests something to do. This is a new character in the story that comes and goes in most unexpected ways until the child's experiences are quite exhausted. "Follow my Leader" is a

story told thru movement. It begins with gusto, works up its climax, and may have either a tragic or a comic ending according to the leader's ability.

As the child's imagery develops, we find a more and more definite presentation of ideas added to the moods. Sometimes this description is in gesture as in the "shoemaker's dance," sometimes in words as in many games beginning, "This is the way," etc. As the child plays on he begins to add words of quality as well as the descriptive terms. Types of well-developed plots are found in such games as "Would you know how doth the farmer?" Here the important parts of a year's life are related in the story and expressed in incremental repetition. We find, on the other hand, as marked illustrations of highly developed games built with contrasting elements. Between such complex games as these, and the folk-ballad, which was sung and danced by the group, there is no dividing line that can be drawn. We have touched the accepted beginnings of both literature and music in the history of the race.

And this embryonic art is the nucleus from which all the arts develop, for the other two arts of movement—music and literature—are but more highly evolved representations of complex relationship of life.

From the evolutionary standpoint, this first art represents the free relating of the values of experience in order to further define their value. And this greatest end of art, to represent the values of life, calls for the plastic manipulation of the forces of daily struggle and enjoyment. Such manipulation can come about only when there is a better understanding of the beginnings of the artistic impulses in the life of the little child, and when there is more definite knowledge of the evolution of art-forms. The kindergarten must free itself from a few fixed types of games in order to study intelligently the child's normal growth in artistic representation, and the elementary school must begin the study of the evolution of the arts from the earliest manifestations in the play period of the child's life.

Art, from this point of view, is a necessary factor for the process of growth. Such a reading of the meaning of æsthetic education would teach children how to build the daily forces of life into forms of beauty and would teach the values that are worth while, for the ability to choose and promote those activities which produce the most beautiful relationships comes from much experimenting with the relating of life's values thru forms which are beautiful because true.

DISCUSSION

Miss Ruth Norton.—Miss Palmer has asked me for my conclusions as to her paper, and I find that many of the things which I have to say apply equally as well to the others. Miss Palmer's paper on "The Principle of Development as the Basis of the Kindergarten Method," out of her own thoughtful, loving experience with little children, is entitled to the consideration of us all. I am reminded of the feeling of a certain young kindergartner who was heard to remark, plaintively, that she wished she had chosen a more restful occupation. All too often our experience has been that after we have worked over a cer-

tain phase, and brought to it our most careful consideration, someone comes along and says "Oh, you are all wrong; that won't do at all." I can sympathize with that poor girl, but is it not the price we all have to pay for having taken the principle of development as an ideal factor in our teaching; and, after all, is it not this very circumstance that gives us the satisfying quality in our chosen line of endeavor? In the process of development going on in the kindergarten, or in any school work, there are two principal factors, each influencing the other—the teacher, with her comparatively wide outlook on life, acquired by education in and thru life, and the little child, with all his impulses, and instincts, and outreaching for knowledge; and both are being educated. I say both, for surely the teacher, if she be a true teacher, is constantly learning, and it is thru her experience in endeavoring to apply the principles that she has learned that the teacher acquires that wisdom which Miss Palmer so happily distinguished from knowledge. Miss Palmer's paper, and all the papers, it seemed to me, contained many references to the qualifications essential to the teacher, and it has been this aspect, the responsibility of the teacher in the process of development, that has had an especial interest for me.

Time was when there was a feeling that we teachers should not attempt to interfere with the natural development of the child—a sort of "hands-off," "stand aside" attitude—but now the teacher is being again restored to her rightful place, as the loving, sympathetic guide of the children, to which she is entitled thru her knowledge of all the child's impulses, interests, and possibilities. This implies that the teacher should be wise in two different directions: First, that she shall know the child's nature, his tendencies and possibilities; second, that she shall have a good, broad, general education along the line of art, the sciences, literature, and sociology. One great essential in kindergartners is that they should have this background of knowledge which is so necessary to keep the teacher from being one-sided.

Now, in the earlier days of kindergartening, the teacher worked as best she could, wholly ignored by the art specialists, the scientists—the very people who could have helped her most. But at last these friends, these specialists, are giving us the result of their experience and advice, with the result that we are transforming many things in the kindergarten, and with the effect, also, of leading to the enriching of the training school for the purpose of giving broader educations. I cannot help wishing that we might have had the benefit of their guidance from the very beginning. And this lack of real knowledge along these lines has allowed us to make some of the mistakes that have been pointed out to us this morning. We have used the squares, the triangles, and like shapes for the making of beauty forms, and I grant that many of them are very poor, and that very few of the forms which can be made from a combination of these figures would pass muster among our teachers of art. We have gone astray, also, in our forms of literature, in our scientific facts, and in many other lines; but the beautiful and helpful thing about it all is that we are waking up to our mistakes and doing our best to rectify them, and thus making ourselves more worth guiding by informing ourselves; and this we must do if we are to have the responsibility of guiding others.

Miss Palmer speaks about striving toward a goal. Possibly I don't understand what she means by "a step toward something higher and better." A child at the kindergarten age, I believe, lives, as a rule, very much in the present. He is too busy absorbing all the new experiences he is passing thru to look ahead very much to a goal not already attained. That would be more, I think, among the children who are just ready to go into the primary school. As the child grows in wisdom each day, and is more and more patient, and begins to plan and watch for results, then I think he may see each victory over selfishness, each acquisition of knowledge, each mastery of technique, as a step toward something higher and better. To a certain extent, we may keep his curiosity as to what lies before, and always we should help him to realize how he has progressed from the lower level. Then I think we should wait until he is older to plan for things not immediately attained. This particular phase of development I, for one, should expect to belong to the elementary

state of education. To quote from Dr. Dewey, "She shall see what step the child needs to take just here and now, to what use she needs to put his blind impulses, in order that they may gain force." If a teacher works with that end in view, the children under her care will eventually awaken to a realization of higher and better attainments.

Miss Ruth Tappan, Brooklyn Training School for Teachers, Brooklyn, N.Y.—When Miss Crawford says that the world has come to some realization of the serious importance of the play of children, we must all heartily agree, but when we approach the manner in which the play of children is connected with the real things of life, there is much room for discussion.

No definition of life is complete which does not include the highest activities of the soul. These activities have been stated to be, the æsthetic, the religious, and the philosophic. In æsthetics two factors are involved—a material factor and a spiritual factor. Of course the material factor varies with each art, but let his medium be marble and clay, pigment and canvas, or wood and metal for instruments, it is important to remember that in each case the spiritual factor which has power to transform these things into art is the human spirit, and that alone.

Experiment enters largely into the creation of the beautiful. Certain definite facts are revealed by a study of early attempts at art. Ancient peoples liked borders on robes, on jars, on buildings. They liked a crude repetition of simple sound. In their borders repetition of line or leaf or figure is found earlier, in point of time, than symmetrical or harmonious designs. It is felt that exercises in arrangement, giving time for experiment in repeated and symmetrical designs, are suitable in laying the foundation of æsthetic development.

Set the child to work with materials, what happens? Either, left to his own crude experimenting, he mars and destroys the paper or other material we give him, or we show him how to use it. According to the way in which we guide him we place emphasis on either one of two things—constructive utilities or æsthetics.

No games, however charming their form or however pleasing their content, are suitable for little children unless they strengthen the tie between the child and the highest activities of life. Music may add to their charm, but the philosophy behind them, determining their selection, must be sound, and the feeling they arouse must be wholesome.

Mrs. J. H. Phillips, Birmingham, Ala.—I have but a brief word to say, on account of the limitation of time, and perhaps of material, because we all want to get to the other meeting. It would be unmoral, if not immoral, when there was a duty ahead of us to go to another meeting on time.

Miss Palmer has asked me to speak of the attitude of the South toward kindergartens both among the educators and the public at large, and I have about concluded that their attitude has taken the form of what Poe said about man's relation to crime—"first pity, then endure"—and that it is now about to "embrace" it. I am very happy to tell you that the sentiment for the work is going on almost by strides, and yet all the time we have tried to grow very slowly—in fact, we have tried to grow as the grass grows, and not to make any noise for fear we should be interrupted in our growing. And I think that our policy has been a good one.

Just a little illustration as to our development. In 1898 the Bureau of Education was sending out, as it does annually, its blanks for statistics in regard to kindergarten work—by the way, perhaps many of us lay them aside unfilled, and I want to speak right here of the good work done by the Bureau and to suggest that the blanks be filled out and returned. Well, when these letters from the Bureau were sent out, not having in many cases the names of the individuals conducting schools, they were simply addressed "Free Kindergarten" or "Private Kindergarten," as the case might be. And this one that I speak of was returned to the Bureau marked "Give company and regiment." "Private Kindergarten" was unknown.

About four years ago, a letter was sent to the Superintendent of Free Kindergartens without any street, and went to that very important department of those who put the proper address on letters that do not contain the necessary information. In that department, I had a friend, and to this friend I am indebted for the following story: There was a man working opposite to her, addicted to what is considered to be a habit common to the South, chewing tobacco, but this man happened to do it in a way not common to the South, chewing with his two front teeth, and he looked at the letter in question, and mumbled out, between chews, "Wall, send it to Mrs. Phillips, I hear she is a crank on such subjects."

I am glad to tell you that, altho our state law does not provide for the kindergarten work yet, our women's clubs, in the interests of education, have so popularized the idea that we are quietly working in some of our cities thru the co-operation of the school boards. Who was it that said of schools where there were no school grounds for the children—Mark Twain, I think it was—"God tried his hand on idiots, and then He made school boards?" But our school boards have somehow come to believe that we have always had kindergartens, and are constantly asking why we have no kindergarten in that school, and remarking that "We must have one there right away."

I disagree with the speaker who spoke as to the instruction to the individual child. We have got into the lock step, which is a dangerous thing, and now we are trying to get out of it. I think the child who asks is the child to whom the answer should be given, and at the time he asks it. And in this way I feel that we sometimes have the unfortunate effect of checking his development, which is unmoral, if not immoral. It would be just as wrong there, it seems to me, as it would have been on an occasion when I was teaching a class in the primary school that five and five made ten. In that class there was a child just full of a burning desire to know—we did deal with figures then, now we don't—and he said to me, "I's done made five and five is ten, and I know that fifty and fifty is one hundred, and won't you show me how to write it?" And now I will tell you what I did. I said, "Yes, honey," and I wrote it for him, and I didn't stop to develop that ninety-nine plus one made one hundred, and I have never had any qualms of conscience on that score; but I did have when I have limited a child in his desire to have just a little more.

But I do find an unmoral tendency in the turning-out of beautiful, clean, lovely, faultless work from the little child. They don't when they go into the higher work—they can't do the same kind of work to save their lives, and it looks as if they were coming from a high standard of perfection, and falling flat to imperfection. I am not speaking of theory in this regard. I am speaking of what I have seen. My plea is to leave the child more to himself. To be a good leader is all right, but the good doer of the thing the child ought to be. And I think we ought to cultivate, with all the capacity and effort we are capable of, without any nervous strain at all, to make ourselves just as clean doers of good things as is possible, and I have had no greater example given me in my life than that which I received from a nature-study lecturer. He was speaking with great earnestness of a certain bird, and of his notes, and he said, "I think, indee I am pretty sure, from the position of the bird and his throat, that he made a still higher note which we did not hear." You see that there is a limit to the vibrations that conduct sounds within the physical ear, but, O teachers! there is no limit to the vibrations of the spiritual ear, and if we keep always listening we can hear higher and higher; and I think often as the little child stands he makes a note that we cannot hear and we must strive more and more to attune our spiritual ear to hear the highest note that comes from the warmth within of the little soul that, study as we will, we will never be able fully to understand.

THE TEST OF THE CHILD'S KINDERGARTEN TRAINING

ADA VAN STONE HARRIS, ASSISTANT SUPERINTENDENT, KINDERGARTEN AND PRIMARY, ROCHESTER, N.Y.

That the kindergarten has been a powerful influence in the educational world by forcing new life into our schools there is no doubt. The happy results which have followed its introduction into the public-school system have induced many in control of school affairs to aim to extend its influence into the grades beyond the kindergarten, or sub-primary stage of education. While, in some instances, results have been charged with contumely and futility because materials were expected to bring results by mere placing without appreciation of their spirit or use, still the kindergarten ideal as embodied in the philosophy of Froebel has helped American education to evolve from the darkness of struggle to the light of triumph.

It has helped many communities and individuals, parents and teachers "to shed the chrysalis of the Dark Ages." Schools that have been little more than cramming factories where children underwent a sort of uniform stuffing process, have been quickened to a new life thru the kindergarten spirit and philosophy.

Miss Vanderwalker, in her book *The Kindergarten in American Education*, has shown us in a masterly way to what extent the kindergarten has served to modify and recast educational thought and procedure by opening up an avenue to progress as yet but little developed. It is safe to say that in no other country of the world has the kindergarten taken so strong a hold and made so great progress as in America.

That great reforms move slowly, and the inertia of the masses of the people cannot be overcome except by the accumulation of force, even in so noble a cause as the kindergarten, many of us who are in the active field too well know.

When the president of this section invited me to appear before this body, I consented from my desire to co-operate, without fully realizing there was not sufficient time before the meeting adequately to gather scientific or accurate data regarding the real *test* of the child's kindergarten training.

Definite data regarding the really tangible results which come from this training can only be given after the most careful research and study of many thousands of children, in different localities and under varying conditions. It is necessary to follow the development of these thru the elementary-school course, and it is a needed study which some society of scientific research might well attack in the near future.

Those of us who have a working knowledge of the kindergarten philosophy and methods and who have watched the progress of kindergarten groups of children thru the elementary school, would be inclined to answer immediately in the affirmative if confronted with the question, "Does the

child who has had kindergarten training pass thru the grades more rapidly than one who has not?"

Of one thing we are confident—if the child does not pass more rapidly, experience and observation lead us to believe he progresses more freely and intelligently. He demonstrates at every turn that he is a possessor of self—sees more, gets more, gives more, *is* more. He compasses a wider range because of his experience.

Froebel's central idea of education being the cultivation of the child as a living, growing organism, and the purpose of life being to unfold all the latent powers and possibilities of the individual, the need of the school, then, is to bring about such physical, social, and spiritual adjustment as the child's unfolding powers require.

Hence the great purpose of education should be to provide such an environment as will best help that life to express itself most perfectly—be the best revelation of the Christ, reflected thru his humanity.

Childhood is the same the world over. It, with the laws of development, remains the same. It is, however, greatly modified by variable factors, the many conditions of family and social life, climatic environment, and influences. While the reaction of these influences differs with individuals, two elements—"the child," and "the laws of development"—remain the same. These factors, variable and constant, the true kindergartner keeps ever in view.

In the kindergarten the aim is not to give definite knowledge but to give freedom to child nature, to stimulate and fix wholesome interest, to arouse and quicken the senses, to direct his development in channels which, if followed, will lead him to well-balanced, law-abiding citizenship, and make of him a good neighbor and a helpful member of a household.

For good citizenship, either in the kindergarten or the larger adult civic community, certain essentials are recognized. There must be civic pride, refinement of tastes, regard for law and order, respect for the rights and privileges of others, love of family, simple virtues necessary in an equipment for the better things of life.

If an education embodied in the public school is to perform its highest mission, it must do more than teach children the rudiments of knowledge, give them skill in handcraft, instil patriotism and love of home, tho all these are essential and necessary. There must be an inspiration to higher ideals, there must be created a holy ambition to make the most and best of life and of every opportunity which comes. This the kindergarten holds as its ideal and best motive, and this the kindergarten takes the first step of a school system toward accomplishing.

The underlying principles of its scheme of work are the cultivation of a recognition of our dependence and interdependence in life-relationships, in family and society. It seeks to bring about co-operation, that medium of the best results in all human endeavor. It seeks to cultivate the spirit

of loving service; to train in ability to express in simple, clear language the child's observation and experiences; to quicken the intellect, develop observation and attention; to invigorate the body; to give the trained hand and the watchful eye; thru "doing" and "being" to train in right habits of obedience, punctuality, order, industry, self-control, courtesy, reverence.

How does it attempt to fulfill this mission?

Thru the repetition of nursery rhymes, stories, finger plays, interchange of home, school, and playground experiences, and thru the memorizing of simple songs and verses comes the gain in language power and a constantly increasing vocabulary as the result of larger associations and experiences. Thru the stories told and retold the child's literary taste is cultivated and he is lifted out of his personal experience into a larger world. His imagination is directed into worthy channels, peopled with high ideals. Thru the care of animal and plant life, the making of gardens, the collecting of leaves, seeds, cocoons, shells, etc., thru walks and excursions, his powers of observation are directed and nurtured.

Thru varied activities furnished by rhythmic movements, by games and plays, he gains strength and control in physical development. Thru music he gains an idea of tone, and an appreciation of rhythm. Thru handwork, building with blocks, outlining and designing with tablets, sticks, and seeds, modeling in sand and clay, drawing, cutting, folding, painting, weaving, and sewing, his powers of attention, discrimination, and association are trained. Thru the constant contact with objects he gains a stock of mental images helpful in grade work.

Does the kindergarten really accomplish what it claims?

The following questionnaire was sent to school principals in a limited number of localities: "What proof have we, in your judgment, of 'the Test of the Child's Kindergarten Training' as shown in his work in the elementary grades, under the following heads?"

1. Does he progress thru the grades more rapidly, and if so, by what means is it apparent?

2. Does the child show any marked ability in (*a*) keener observational powers? (*b*) language development? (*c*) ability to work with his hands? (*d*) ability to adapt himself to the community?

3. Is he a better citizen?

The replies were most varied in character, and both favorable and unfavorable to kindergarten work. Following are a few of them:

1. They are inaccurate and weak thruout on facts and details which are hard to master, due to lack of application and persistence.

2. Of sixty-eight children who have attended kindergarten in grades three to nine inclusive I find forty-two have had to repeat one or more grades.

3. Children are easily interested so long as teachers can work with them.

4. Their interest soon flags and comparatively little is accomplished if required to study by themselves.

5. They have a scattering versatility, a wide but too superficial interest.

6. The kindergarten children are the leaders in the school athletics and games, doing errands, etc.

7. The general testimony is that the language work is superior. If this is so, it must raise the standard of all subjects to some extent.

8. They revolt against hard work.

9. They have too little ability to work by themselves.

10. They have no interest in the successful accomplishment of a given task.

11. When the child enters the first grade we find that the kindergarten child has a decided advantage over the child who has not attended the kindergarten—in keener observational powers, in language development, and in ability to work with his hands; but by the time he reaches grade two, there seems to be little to distinguish the two classes of children. In other words, the influence is not far-reaching.

These replies evidence the lack of any standard of judgment, since there is no definite means of following kindergarten children thruout the grades. Furthermore, in any test of children it is difficult to ascertain how much is due to specific training, how much is due to general development, and how much is due to contact with outside.

Those showing satisfactory results from kindergarten training were from places where a close unity existed between the kindergarten and the rest of the system, a sympathetic appreciation and cordial relationship dominating kindergartners and grade teachers, together with a realization that all are engaged in the same great work and that to work to the best advantage all must work together.

Too often the kindergarten is looked upon as a needless appendix to the rest of the system, receiving little sympathy and much criticism growing from lack of knowledge.

In a certain school system when the question was recently raised regarding the promotion to first grade of a group of immature children the principal of the school said, "The kindergarten is all right for poor children, children of the slums; but those who have comfortable homes and thoughtful parents do not need it. Children are better off in first grade. The kindergarten is only a play school."

Grant the kindergarten *is* a play school, at the same time it is a means of transition from the home and free play to the school and its requirements.

Madame Kraus-Boelte says:

> Play rightly understood proves itself a means of assisting the inner growth of the child, independent of formal instruction. No better discipline for the world's work can be found than in the obedience to the laws of a game, the sinking of self or personality, so that the many may participate equally. Play is the natural expression of child life. Plato says, 'Man is only man when he plays'.

The philosophy of the kindergarten explains how it is possible to carry the joy of play into a form of constructive effort that moves in the direction of work. All children whether of the roadside or the hilltops must be trained to be persistent, self-dependent, unselfish, able and ready to over-

come obstacles, and we should study to avoid making too smooth the child's road lest he become desultory and dependent, with an indulged inclination to go around rather than to surmount obstacles. This the best kindergartens keep ever in mind.

The lack of opportunities for really authoritative data on a measurable value of the kindergarten makes an absolutely provable conclusion impossible It makes the question a debatable one—at least by those weak in sympathetic endorsement of kindergarten work and results.

But the results of the kindergarten are qualitative anyway, not quantitative, and that many kindergartens fail both in spirit and in accomplishment is undeniable.

As each grade is a preparation for the succeeding one it devolves upon the kindergarten as the foundation of the higher school life so to equip the child that he may enter the primary school armed for its requirements and conditions. These conditions the kindergartner should studiously endeavor to comprehend, not simply theoretically but practically. Inexperience, lack of clear and appreciative understanding, sentimentality, constant supervision by a teacher, keeping the child on diluted infant's food when he is old enough for substantial mental pabulum, were never contemplated by Froebel and are directly contrary to his ideas.

On the other hand, there is oftentimes even greater need that the primary teacher should understand the spirit and workings of the kindergarten, the demands on the conscientious kindergarten teacher, and the undoubted need of just the instruction and opportunities which the kindergarten affords the child under school age.

While the grades succeeding the kindergarten have undoubtedly been tempered by Froebelian influence, there is still much to be accomplished to bring about a perfect blend. The elements entering into the composition of the two are so nearly allied that the atmosphere and environment should have much in common. This I know can be realized, for I have seen looks askance changed into a bee-hive of sociability, actuated by a common cause. I have seen inflexible first-grade teachers become joyous, song-loving, game-playing beings, in an unbroken and harmonious connection with the kindergarten.

There should be a more careful grouping of children in the kindergarten according to age and ability, and a more careful grading and adaptation of programs and materials to these varying groups.

While the kindergarten is not the place for dry facts, set formulas, or formulism, neither is the presence of Froebel's gifts and occupations an absolute necessity for the full rendering of his spirit and principles. Some of the most valuable work accomplished under my observation has been thru the utilization of material immediately connected with and from the child's home life, or the child life. This one feature, that of recognizing that virtue of itself does not exist in the materials of Froebel, will do much

to constitute a closer unity and sympathy between the kindergarten and succeeding grades.

There should be something more than the too common age qualification as a basis for promotion from kindergarten to first grade. Failure to realize the real benefits of this training for children, and placing them in an environment for which they are not ready, either physically or mentally, is undoubtedly the cause of most of the retardation.

In order to understand and appreciate what the kindergarten accomplishes as a preparation for the larger school life, there should be some standard by which an estimate may be placed upon the development of each individual as he is promoted. Such a standard may be formed thru the co-operation of supervisor and kindergartens.

The following may be suggestive:

1. Observation; as shown in development in ability to see and discriminate quickly.
2. Attention; as shown in building, dictation exercises, and in ability to tell stories.
3. Accuracy; as shown thru manual work, drawing, pasting parquetry or pictures, folding.
4. Memory; as shown in the reproduction of games, songs, and stories.
5. Imagination; as shown in originality or inventiveness. Power in the interpretation of thought thru the various gift and occupation mediums, also in plays and games.
6. Discrimination; thru the handling of papers, sticks, and tablets of different form, color, and size.
7. Language.
8. Motor control.
9. Power of self-control.
10. Ability to co-operate.

Where kindergartners thus diagnose individual conditions, causes, and effects there will be a perspective of kindergarten work as a whole, its influence, and its adaption to succeeding years.

Any first-grade teacher has a right to expect the child entering from the kindergarten to see correctly, to listen intelligently, to have motor control, the right notion of his relations to the group, the ability to respond to directions, to be self-helpful, orderly, able to express himself, to have had the inventive and constructive faculties awakened.

Again, it should be the duty and pleasure of every first-grade teacher to make clear and definite all previous sense-impressions, by giving all possible opportunities for continued response thru motor activities.

> An impression which simply flows in at the pupils' eyes or ears, and in no way modifies his active life, is an impression gone to waste. It is physically incomplete. It's motor consequences are what clinch it (James).

It is the responsibility of the teacher in the lower grades to give most careful attention and preparation to that part of the child's life in school which is not actively engaged with the teacher; to keep alive and to direct rather than to suppress and nullify the powers aroused in the kindergarten.

This cannot be effected by placing the kindergarten materials in the

primary grades. While they furnish a medium for the development of children in the kindergarten stage, the same apparatus should not be used as an expression of this philosophy at another stage. Other means must be sought for children in each succeeding stage of development.

Neither can this same development be carried on thru mass teaching. The large number of children assigned to a single teacher in the primary school makes it practically impossible for her to give each child the individual attention that his age demands. The child's energy can be directed only by careful classification and grouping. The primary-school ideal then, is to recognize at the beginning of the year the differing powers and capacities of the individuals and to carry these individuals forward thruout each month each at his own gait, so that the end may find even more unlikeness than at the beginning.

The kindergarten aim must be distinguished between entertaining a child and sharing in his education. Unfortunately, the kindergarten cause is wrongly conceived by a large public and an equally large body of teachers because of this failure to discriminate.

This work requires highest culture and intelligence, "A thoro knowledge of the universal or typical child, and a constant psychological study of each individual child."

May all teachers be led to see,

> How baser metals in their store
> May be transformed to precious ore
> By love's strange alchemy;
> And let them daily seek to find
> The childish heart beneath the mind.

I. THE KINDERGARTEN OUT OF DOORS: GARDENS

ANNA E. HARVEY, ADELPHI COLLEGE, BROOKLYN, N.Y.

Lord Bacon says:

> God Almighty first planted a garden, and, indeed, it is the purest of human pleasures. It is the greatest refreshment to the spirits of man, without which buildings and palaces are but gross handiworks. And a man shall ever see that when ages grow to civility and elegance, men come to build stately, sooner than to garden finely. As if gardening were the greater perfection. I do hold it in the royal ordering of gardens there ought to be gardens for all the months in the year, in which severally things of beauty may be there in season.

"God Almighty first planted a garden"; and it was in the garden that man first began. Yet tho man was obliged to leave this garden, the garden instinct did not leave man; and, as our first parents turned with longing eyes and looked back, so, thruout the ages, that longing is ever present. It is doubtless true that conditions and experiences may dim the longing in the adult; but the little child, or growing boy or girl, has this undeveloped instinct to get nearer to the heart of nature.

It was an appreciation of the prime importance of this instinct that led Froebel to plan a garden, where each child should have his own plot of ground, and a share in another reserved for united work by all, as a part of his wonderful system of education; and happily and significantly he called it his "kindergarten"; thus doing, he made the garden one of the essential parts of his great system.

It is surprising that educators thruout our country have been so slow to recognize this valuable adjunct to the regular curriculum. We read that the pioneer work in this movement was started by the German States as early as 1814. Yet only since 1895 has England included "cottage gardening" as an optional study for boys; and the United States has been equally tardy. I believe Massachusetts, the state of good schools and good roads, had the first school garden, in Roxbury, in 1891. New York did not become vitally interested until 1902, when Mrs. Henry Parsons converted an empty lot, which had been used as a tenement dumping-ground, into "The Children's School Farm."

But the work has prospered. We may rejoice that in eight years interest in it has grown so that, at present, school gardens brighten the lives of hundreds of our children in the public and vacation schools, and in the settlements. So popular is the work that Mrs. Parsons' son, Henry Griscom Parsons, has a class at the New York University for training teachers in the "art of gardening." We read of the work in Chicago, Cleveland, Philadelphia, in many of the western states, and in New England, where school gardens have not only attained a high degree of excellence, but are recognized as a most important part of the educational system. The seed is sown and the garden is growing. When the little children of today are the men and women of tomorrow we shall see the fruit.

What the fruit will be, we may easily surmise. The longer we keep the child in the garden, and the stronger we make him, the longer we can keep him from the cramping influences of the worldly pursuits of his later life. Happy are the little men and women of the tenements, who may be brought into this little Eden and smell the flowers of Paradise. And happy too the children of the country, who have eyes but see not, to whom familiarity has made nature stale—happy will they be when their eyes are opened to see, and their minds stimulated to appreciate, not only what is in the garden, but what is in our beautiful world. So there is work to do.

It should not be by the hand of man that the gates should be closed to these little ones who have not tasted of the tree of knowledge. On the contrary, it is the duty of all to whom little ones are given, to see that ignorance, prejudice, and indifference are thrust aside, and that the little child is given the opportunity to get close to the mother of us all. And why? Let me tell you one of many significant stories.

In the city of Brooklyn a few years ago, a young woman was assigned to a kindergarten in one of the most depraved parts of the city, crowded with

dirty tenements, built of wood, filled with numberless families. The outlook from the kindergarten rooms was over back yards where ashes, tin cans, bottles, filth, and rubbish of every kind were lodged. The young kindergartner began with a window box; then she interested the janitor and then a few parents; and at length she had a tiny garden in the back yard of the school. And that is not all. By patient, painstaking work, visiting in the homes and doing a little at a time, this young woman has been able not only to have a beautiful garden connected with her kindergarten, but she has managed to convert those filthy back yards into gardens that delight the eye and uplift the soul. She tells me that, tho the people of the neighborhood are exceedingly poor, their interest in the school garden and in their own is so great that she scarcely expresses a wish for some necessity or even what might be termed a luxury for the garden, but the parents, with combined effort, see that she gets it.

Now this is more than the story of the planting of a garden. It is a story of Froebel's kindergarten for grown children. It is the story of the sweeping-away of the ashes, the rubbish, the filth of the entire community, the tearing-down of the veil of conditions and circumstances, and the bringing into light of that old garden spirit that our first ancestors knew when they loved the simple and the good. It is this love of the simple and the good that the garden develops in the child. He tills the ground. He plants the seed. He fosters it with loving care. He watches it spring into life and come into sturdy growth. And for his reward he sees it bear fruit and flower. No child can do this thing without knowing full well what he means when he sings, "My heart is God's little garden."

And furthermore, no child can do this thing without realizing that his garden is not only for himself, but that there are other gardens besides his own, and that in the places where there are no gardens it is for him to plant them. For

It is everybody's business
In this great world of ours
To pull out all the weeds they find,
And make room for the flowers;
So that every little garden
No matter where it lies,
Shall be like one that God made,
And called it Paradise.

II. THE KINDERGARTEN OUT OF DOORS: WALKS AND EXCURSIONS

MRS. ALMA OLIVER WARE, PRINCIPAL, KINDERGARTEN TRAINING SCHOOL, SOUTH BEND, IND.

We kindergartners have learned that in the big circle of life every segment has its value, and who can say but what that of early childhood is the rainbow of prophecy as to what all the future life may be? In fact, all

future educational life is but the unfolding or rounding out from the fundamental notions and experiences received in some germinal form at this period.

The most impressionable time in the child's whole existence is when he is from four to six years of age, just the period when the kindergarten claims him. These early impressions are the germs from which spring all later thought-activities, and however much they may be modified by future experience, they ever remain "the fountain light of all his day." The observations in early life, particular kinds of observations and many of them, will largely determine the quality and strength of the child's mental capacity later on. The quality of thought is influenced by that which remains in the mind; and strength by the vividness of that which has been observed or its direct appeal to his interest.

There are double doors to the child's consciousness. While impressions are surging in, if that were all, our task would seem an easy one indeed; but in the wonderful working of that much-discussed self-activity, outward swings the door and forth springs an impulse propelled by an instinct which has gained the accumulated strength of many successive generations. On the threshold impulse meets impression and ever they work hand in hand: heredity and environment. These are the two great forces that make or mar the young life. It is our task, O kindergartner, so to adjust the weight of each as to secure the happy equilibrium. We attempt it by giving such environment as will stimulate the best reaction to the impulse, knowing for the unfolding life that each time we do this we increase the possibility of its becoming habitual.

What are some of the strong old instincts which ripen at this kindergarten age? Ever since the early birth of a self, when our ancestors in an unconscious effort to express individuality reached out to grasp for themselves the apple of knowledge, has each succeeding generation exhibited a similar investigative tendency.

Thru the inherited knowledge which has come to us as the result of successive stages of experience, we begin to see that the instinct of investigation is legitimate and wholesome if guided in the right direction. In the kindergarten the consideration of investigation must be a preponderance on the side of environment or the value of "sense-perception." This seems carrying coals to Newcastle, as we have carefully studied that dominant word which stands as the keynote to Pestalozzi's method of instruction, but if we hold to this fundamental and add to it the leaven of Froebel's "self-activity," we will have the full loaf of "apperceptive mass" which is the child's most valuable asset when he enters the grade work, and the teacher in the grades finds it uphill work without it. This, I believe, is our contribution to the educational life of the child: not what we teach him, but what we help him to find and store away as a basis for future thought. His own self-activity makes him an explorer, but we influence its direction and at

this stage the wisest teaching that we can do is that of opening the right gate just at the auspicious moment. Last summer after our Denver meeting I journeyed over the great Rocky Mountain Ridge and rested on the other side at a beautiful ranch in a valley near Glenwood Springs. Here I saw a strong illustration of this idea in the method of irrigating the cherry orchards and alfalfa fields. A bold natural stream came dashing down the well-worn hollow in the mountain-side, making its rapid way to Grand River, but gates were closed or opened which turned that mountain stream into such directions as would gain the most desirable results for the future productivity of the mother earth of which it was a part. That mountain stream symbolized the instinct of the child and its eager, onward rushing, the child's impulsive acts—shall we allow the bold stream of investigation to rush unguided on its way or direct its course to where the result will be a rich harvest of food for future thoughts?

This I take to be the educational value of the walks and excursions of the kindergarten. Do not for one moment think that I am overlooking the purely physical benefits accruing from the exercise in the open air, but that is a foregone conclusion and must be so accepted at every step in this discussion.

We must help the young explorer to go in the right direction. Every mother and teacher knows what I mean and could give us many examples of a wrong expression of this instinct because at the critical period of its maturity there was lacking the wholesome stimuli.

What does the grade teacher wish as mental content when she substitutes textbooks for things? She immediately begins to find what sorts of images the child has already formed—for abstract thinking is the work of the imagination, and tho the imagination is a wonderful magician, it works in a perfectly scientific way and can no more build up finished conclusions out of nothing, than dreaming of millions could give you your daily bread.

No one can fully estimate the working value in education of good, clear images. And this again is our opportunity: to go with the child to where his investigative instinct can gain such images as will be clear and strong and of the right sort, thus forming a storehouse from which the succeeding years may draw and upon which the whole structure of education may be started and evolved from gaining in clarity of concept with each succeeding stage, for images change in quality. We walk to the park or to the open square, perhaps to the lake-front or to the seashore; it may be there's a hay-ride to some distant country house, some day a street-car ride with a picnic at the end. If you had asked me fifteen years ago what was the purpose of all this, I should no doubt have answered promptly that the outing brought relief from the tedium of the schoolroom and helped us in our work of illustration next day. This is still true, but there is more.

The kindergarten works no more in an isolated way, but while seeking to do its part as seems best for the immediate stage of the child, yet works with

a knowledge of what is its obligation to the stage that is to follow. "The intelligent, co-operative kindergartner," says Dr. Dewey, "works not *in* the grades but *for* the grades." And yet we sometimes find the kindergartner floundering in her unintelligent effort to put the cart before the horse.

The child sees that which touches his own personal experience, or which may be interpreted thru the light of his own experimental life. It is very different when he has an image and we attempt to clarify the concept about it. We had better be careful lest our own be a little hazy or vague, like that of the young lady who was endeavoring to have her group of children understand the colors of the rainbow. She had learned them very correctly in textbook order and stepping to the blackboard drew a small down-swinging crescent. An assistant gasped, which so strongly suggested alarm that the question was asked, "What is wrong?" The arch was then drawn with the white chalk and then the colored crayon applied in short sections *transversely*, first red, working to two or three inches, then orange and soon. She had not walked with open eyes but was teaching altogether from text-books, when one good, clear image may be the basis for many textbooks. She, like Mr. Bradley Headstone in Dickens' *Mutual Friend*, "had acquired *mechanically* a great deal of teacher's knowledge."

Don't you think that we oftentimes forget the stage of the child and expect him to see as we see? In a kindergarten which I knew, the kinder-gartner and children went out for a walk to the lake-front, and much care was taken to help the children to see "far away on the water to where the sky seemed to meet the lake," hoping that they would be able next day to paint sky and water showing horizon-line. Next day when the time came for the representation of the scene one little lisping fellow of less than five years stolidly refused to take the brush and "paint from left to right above and below the pencil line" placed there by the kindergartner. The young lady asked him if he remembered the walk to the lake. "Yeth," he answered. "Then didn't you stand with us and look out far over the water?" No answer came and in despair she said, "Well, Robert, how *have* you seen the lake?" Quick came the answer, "Wite and nathty, where my papa let me paddle my toes in it." He was given the brush, the paint box and water, and allowed to paint the thing as he saw it and it is needless to add that he painted no horizon line, but he made it "wite" and frothy as the waves ripple upon the shore. This reminds me of the great Turner. When an old man, and critics had attacked his "Storm," Ruskin heard him muttering, "Soapsuds and whitewash, say they. What would they have? I wonder what they think the sea is like. *They should have been in it.*"

As has been suggested, the kindergarten age is one of image-making and getting acquainted with the world outside, bounded by no horizon-line as yet. How well I can recall my early school days: no walks to see the new buds on the trees, no hunting for first birds in the spring, no guided tramps to the lake and stream, but day after day books, a desk, and a bench, until

as Richard Hovey says, "one grew sick of four walls and a ceiling." That was at five years of age, and when at seven the teacher wished me to understand a lake she poured a glass of water on the schoolroom floor, but even today my image is of the spreading water with the floating dust-particles which had to be wiped up. The country child who had to walk a mile, or maybe two, to the country schoolhouse had every advantage. He overcame distance, felt space-freedom, saw complete processes in the woods and homes about him, his images were strong and clear of field, forest, and animal life—the tendency to explore, to investigate, found and worked upon nature's own material where every suggestion was to construction rather than destruction, as is the case where our city children are given everything "ready made." Our kindergarten in America is a modern city institution and a part of that complex civilization where child life is very often most unchildlike.

The kindergarten walk begins the habit of going with a purpose, seeking for something that the teacher feels quite sure will be found and that will satisfy some need of the child. The teacher should prepare as carefully for the walk or excursion of the kindergarten children as she prepares her story or other work of the morning. Once when we were talking about the farmer and his animals, the children were asked to tell what they knew about the cow. One boy said, "I know how to get the milk, for I saw a cow at Coney Island, and the man just pressed the button, *so*, and filled my cup," a patent arrangement like the soda fount. Very soon we had an excursion to where the children could see "real" cows and the discussions which followed were delightfully alive. When those children are ten years of age they will not ask, as a boy did of a farmer, "Don't you have to buy a great deal of gum for all those cows to be chewing?"

One of the strong influences of the outdoor walk on the eager, impressionable mind of the child is the development of a sense of space-freedom. It is impossible to expect free expression of mind or hand from children who live in cramped homes, in dwarfed domestic atmosphere, with no outlook but on chimneys or nearby walls. It has been said that the only way to secure free activity with blind children is to have them play in a large field where there is not a single obstruction, and that after a time they cease that pathetic appeal of the outstretched arm which we usually expect to see in them. If the sense of the space-freedom removes fear and gives free expression to these little ones, its value should be proportionately more to the normal child whose vision goes far afield. It is well known that our largest images are of the sea and the mountains; the one guides the vision out and far away over the broad and limitless deep, while the other has lines which if followed lead up, up—who knows where the imagination may take one? We have not taken enough thought of this sense of space-freedom; we have too often been satisfied to go out on the school playground with its fine but adult appliances. This is good, having a most valuable function to per-

form, but cannot do for the little ones by way of enlargement of primal impressions what the stretch of grass, the tall trees, or the flight of birds will do. Freedom of hand comes from freedom of thought and this is a result of larger vision out of an awakened and enlarged sense of space-freedom.

Our writing supervisors, our drawing teachers all urge freedom of hand with the use of the larger muscles; we help them when we give our kindergarten children such images out of a free environment as will stimulate to freedom of expression. In a certain kindergarten I found the director struggling to carry out my recent suggestion to secure more blackboard expression from the children. She was justifiably disappointed with the cramped, almost invisible, result. Upon inquiry I learned that in that school there never had been a walk or excursion.

There is a fine opportunity after an excursion for blackboard work so little used by most kindergartners. Too frequently there is a finely executed picture put upon the blackboard, perhaps by the art teacher, and left for weeks. There is no objection to that picture, but it serves its purpose in two or three days and should not be considered permanent. I have found that the drawing by the children during the morning circle is also a fine opportunity to secure true criticism from each other, and they learn to meet public opinion.

But impression alone is not educative, there must be interaction; the manner in which investigation is directed toward securing right results and the training toward free but sincere accurate expression, however simple it may be, will be our task.

In view of the child's future social development and knowing that as soon as he comes to kindergarten he is learning of an institution other than home, his interests are broadening and he feels relationships with the outside world of society as well as that of nature; do our walks and excursions meet this? Not by going around the corner that he may see horseshoes at the blacksmith shop only to draw better horseshoes the next day, but that he may feel his kinship with the worker, may see the cold, stiff, unyielding iron serve man's purpose thru action of the wonderful forge fire. He feels the might and skill of the worker, respect follows, and a vague awakening of desire to do strong, skillful work. Anything that stimulates respect for good workmanship increases the possibility of better work, even in kindergarten, and it is just here that habits begin of effort to accomplish, and accuracy in the doing. The results are clear and forceful from thus coming into direct relationships, interest is aroused which can be turned into an immediate wholesome channel. Fear of others makes one a coward, but respect and admiration for the deeds of another breed self-respect and stimulation.

Stories and pictures are valuable aids in teaching children of their relationships but they can never wholly take the place of first-hand impression or experience. Never would a pictured sand-pile give to the children more

than a suggestion of its possibilities, while no one can tell the suggestiveness of the real experience with one. In the same way there comes to the child's social nature thru the walks and excursions that which nothing else can supply.

The walk or excursion brings the child into immediate relationship with the larger world of nature, the broader view of society, meeting his out-reaching interests and stimulating his innate desire to do.

In summing up, let me say that the walks and excursions stimulate investigation which is the dynamic factor in education; give opportunity for clear images which are the concrete foundation of thought-activities; and put the child into closer relationship with society, thereby broadening his interests and meeting the development of his institutional nature.

III. THE KINDERGARTEN OUT OF DOORS: OPEN-AIR SESSIONS

MARGARET M. COLTON, PRINCIPAL, GROVE STREET SCHOOL
PROVIDENCE, R.I.

In the current number of a popular magazine the editor calls attention to a new word in the English language. The word is "paidology," derived from two Greek words meaning "child" and "science"—the science of caring for children.

While the term itself may be new to us, the scientific principles of which it treats meet a need long felt by every thoughtful educator. A science which seeks out all kinds of information regarding the body and mind of the child, and which aims to understand all departures from normal standards, physical, mental, and moral, cannot fail to be of inestimable value to the educator and to the child.

Into the web and woof of the educational winding-sheet encircling the life of every child, into the web and woof of his every conscious act is woven the strong and controlling influence for good or evil of a healthful or an unhealthful home environment.

The poor we have always with us, and every educator of today is facing the problem of the poorly-housed, ill-nourished child of the congested city tenement with hygienic conditions that have dwarfed his physique and robbed him of a fair physical chance, and with moral conditions ill-fitted to keep him in the paths of rectitude.

Who shall be answerable if, suddenly realizing his inability to maintain his place in the competition of the schoolroom, he drifts little by little, day by day, year by year, first into truancy and later into outspoken crime, if as the years pass there becomes infused into him a little more of the spirit of the prevented, a little more of the spirit of the denied, until finally he drifts, first into mental, and then into moral, incapacity?

Does the community lose its relation to this child? No. The ills of

society are but the aggregate of the ills of the individual, and it is a universally accepted truth that "those who are competent are carrying every ounce of the burden of those who are incompetent, no matter what the nature of that incompetence may be."

It is a common weakness of mankind to be caught by an idea, to be captivated by a phrase, but the neglect to carry the idea into practice is a still more common weakness.

At first thought the matter of holding open air-sessions for kindergarten children and the little people of the lower primary grades seems a glorious ideal and we wonder that we have not tried the scheme long ago. To those who are fortunate enough to enjoy an environment where conditions are favorable, where schoolgrounds are spacious and well shaded, or near enough to some park or shaded field, here among the wild flowers, close to Nature and to Nature's God, the scope of such sessions is unlimited. With directed games and free play, with an improvised sand-garden, the joint partnership of building the landscape-play, with the fairy story-teller directing the childish imagination to discover landscape friends, and interpret landscape sounds: these are but the beginnings of this wonderful out-of-door work with children which will prove an interesting inspiration to the ambitious kindergartner, for there is no limit to the material with which nature furnishes us if we will but open our eyes and make a beginning.

Froebel's ideal kindergarten was a playhouse in a garden. Would that inspired educator be able to recognize his ideal in its adaptation to that well-ordered playroom, the average modern school kindergarten of today, with perhaps the nearest square foot of greensward many blocks away? Are we not battling against odds that were never dreamt of in his philosophy?

Situated as we are in the heart "of the madding crowd's ignoble strife" for progress and wealth, we are daily and hourly struggling with the problem of restoring to the child his rightful inheritance of the gifts of Nature, of which he has been robbed by a thoughtless form of organized civilization which has systematically eliminated the poor.

We are told that a child's best inheritance is a mother who knows how to keep him well, being assured that the healthy child grows to manhood and womanhood capable of resisting contagion and defying disease. Does not the neglect of the health of these little children amount to race suicide as truly as does the direct reduction of the birth-rate?

Luther Burbank, in an article on "The Training of the Human Plant," says:

> The curse of modern childlife in America is over-education, over-confinement, over-restraint. The injury wrought to the race by keeping too young children in school is beyond the power of anyone to estimate. The work of breaking down the nervous systems of the children of the United States is well under way. Every child should have mudpies, grasshoppers, and tadpoles, acorns and pinecones, trees to climb, and brooks to wade in, and every child who has been deprived of these has been deprived of the best part of his education.

But not every child can have these blessings of the country, and so to the educator falls the double task of supplying the want from the limitless realms of the land of Make-Believe.

Upon the sun-parched sands of the familiar city school grounds with no more shade than is afforded by the school building itself, much out-of-door work may be done, and here again the kindergartner will soon surprise herself with her own inventive powers. The matter of removing the kindergarten furniture is a simple one; each little tot delights to carry his own chair; tables, too, may be removed to the yards if desirable, by reversing them, feet up, to avoid the danger of throwing these tiny helpers, and the incidental lesson in helpfulness and the improvement of existing conditions is not to be discounted. The man is but the boy grown tall, and these little occasions for assisting and being made to feel an individual responsibility in perfecting the scheme of the whole, are steps in promoting a future American citizenship, which, while free and independent, would scorn the spirit of arrogance.

Millions of dollars are being spent annually in the erection of palatial public-school buildings, and in the establishment and maintenance of expensive educational systems, and yet it is a sad fact that, save as housed within these majestic walls, the children of today are forgotten, crowded out in the steady march of the business man, from all that once constituted their rightful share of God's universe, without playground or park, without even the safety of their own home streets which once formed their private realm of mystery, of safety, and of delight.

In seeking to condone the administrative oversight in the matter of providing shade trees for many barren school yards and the residential streets of the poorer localities of the city of Providence, a local newspaper, during the past spring, opened a campaign by presenting to the city twenty-five trees, mostly Norway and sugar maples, to be distributed at the discretion of a duly appointed committee. At the same time opportunity was afforded the community to join in the movement. The payment of three dollars covered all expense of providing and setting out one tree with the proper wire protection, and with the guarantee that if such tree failed to flourish it would be replaced.

Almost instantly the movement was taken up, until, riding the crest of the wave of popular enthusiasm, the present number of trees to be set out in the fall is close to four thousand. Surely the campaign is worthy of emulation.

The American playground movement is an inspired gift to the forlorn children of the street, but if parks and playgrounds are not close at hand, why not accept the suggestion of a New York City principal of setting aside certain shady streets during a specified time each day, and diverting the traffic during such hours to other streets less suited to child's play?

Or has the progress of modern civilization lost all sense of the value of play? In his *Education of Man* Froebel says:

The play of the child contains the whole germ of the life that is to follow, for the man develops and manifests himself in play and reveals the noblest aptitudes and the deepest elements of his being.

Who can approach a group of boys at play without noting the moral and intellectual power steadily gained and brought under control: justice, loyalty, self-control, truthfulness, together with courage, perseverance, resolution, and prudence?

"But," you ask, "with our present overcrowded curriculum have we time to give so much consideration to play?" To the spirit of play, "Yes."

In speaking of this subject, Dr. Luther H. Gulick, New York's director of physical training, says:

Play is the spontaneous enlistment of the entire personality in the pursuit of some coveted end. We do not have to pursue the goal we wish to—it is our main desire. It is the way in which we take the responsibilities and problems of life that makes it either a deadly bore—a mere dull round of routine and drudgery—or the most interesting and absorbing game capable of enlisting all the energy and enthusiasm we have put into it. The people who accomplish things in the world are the people who play the game. They let themselves go, they are not afraid. Under the stimulus of enthusiastic play the muscles contract more powerfully than under other conditions. Blood pressure is higher in play. It is far more interesting to play the game than to work at it. When you work you are being driven. When you play you are doing the driving yourself. We play not by jumping the traces of life's responsibilities, but by going so far beyond life's compulsions as to lose sight of the compulsory element.

Play up, and "play the game"!

DISCUSSION

Miss Ella C. Elder, Buffalo Kindergarten Association, Buffalo, N.Y.—Our president has said that the open-air session has arrived. I think we may also say that the school garden has arrived. At least, that was very decidedly my impression after attending a meeting of the School Garden Association yesterday afternoon, where I saw the most beautiful illustrations of the work that is going on in all parts of the country; the most beautiful pictures of school gardens and waste places that have been transformed by children from public schools.

On Tuesday I attended a meeting of the Home Economics Association, and there I heard a very interesting account of the development, from very small beginnings, of what has become such a widespread movement for training in industrial education, or industrial training along the lines of domestic work and agriculture. It was a practical illustration of that word that was given us by Dr. Goddard the other morning—"If you know what you want, and you want it hard enough, and you do not forget that you want it, you may have it."

So it seemed to me that that is the situation so far as the kindergarten garden is concerned. The problem is with us. It is simply a problem of ways and means, and I must confess that I have felt somewhat that we kindergartners, many of us, have not been quite true to our Froebel ideal, in that we have not gone farther with the garden movement. It should be a part of every kindergarten that has not the limitations of which Miss Harvey has spoken. It is really a question of the personal equation—I might say three personal equations, because we have to take into account the principal and the janitor. And when the attitude of the principal is that of a principal whom I know, who has beautiful school grounds, but who has such pride in his grounds that he won't allow a kindergarten child

to set foot inside the fence, it makes the problem all the more difficult. And then there is the janitor, who is a very serious problem. He may unplant all that has been planted and replant for his own satisfaction; but as has been said, it does not matter much to the kindergarten children whether they have planted the seeds or whether the janitor planted them.

One of the most successful kindergarten gardens I have seen is conducted in a neighbor's back yard, has thrived for several years, and is a continual joy from the appearance of the first snowdrop to the disappearance of the last aster. It has taught many, many lessons, not only in gardening, the real gardening, but in the gardening of the spirit. Miss Harvey spoke of the little gardens in glasses. I wonder if any of you have tried planting seeds in egg shells. It is a simple way, and a very easy way for transplanting, because you simply break away the shell and transplant the seedling.

And so, as I have said before, I think the problem really rests with the individual kindergartner. We can have some sort of a garden if we try. In this garden movement, the kindergartner should have been in the advance guard. Let us see that we do not bring up the rear.

Miss Curtis.—I am at somewhat of a disadvantage. I don't know what has been said on the general subject in your first paper, but I can tell you a little about the outdoor school movement in the different countries. You probably all know that it was begun in Germany about six years ago, with great success, was copied in England, where they have a number of outdoor schools, has more recently been taken up in Switzerland, and is under way now in other countries. And from the physician's point of view it has been very interesting. Of course, educators are interested from a different side, because it gives signs of what might be done with the normal child. Most of the pupils in these schools are defectives, most of them are tuberculous, many of them are anemic, and suffer from many other troubles, and the educators are interested because it shows what might be done with the normal healthy child. And on the side of the defectives, if this work could be taken up you can see what a tremendous preventive work it might do.

Miss Emilie Poulsson.—I thought I would just like to give you a little verse or two, or to have you make a little verse, which the children who are interested in the garden might like to sing. Now, what is the first thing that a child would do to make his garden? (Ans.) He would dig it. Now this little boy did that—he dug his little garden, and of course he enjoyed digging it. And then what did he do next? (Ans.) He sowed the seeds. Now we call it planting if we make a hole in the ground and put the roots in or a bulb, but we sow the seeds. So he dug his little garden first, and then he sowed the seeds. Then what did he do after he did that, and those seeds were down in the dry ground? (Ans.) He gave it water. Yes, he dug his little garden and he sowed the seeds, and he gave it water—but something else grew up besides the flower. (Ans.) Weeds. And he pulled the weeds out. Now, then

He dug his garden,
  He sowed the seeds,
He gave it water,
  And pulled the weeds.

Then what happened when this plant grew up—it was a nasturtium? (Ans.) It has a blossom. Yes, and when flowers blossom, where do they go? He didn't have that garden just for the fun of it, just for the fun of digging it, and just for the fun of sowing the seeds and seeing them grow. He had something that he himself, could give away, and to whom did he give the first flower? (Ans.) To his mother. So, then

When it bloomed
  With flowers gay,
He gave his mother
  The first bouquet.

And that is one of the little songs that Elinor Smith is putting music to and is coming out in a little book. Then I'd like to give you another about the cow, because Mrs. Ware has told us about going to see the cow, and this is also a short one. It gives the child a little country picture. We very often have pictures in the kindergarten of cows coming home in the country, with udders full, with the bells about their necks.

Tingle, ting, tingle, ting
Tingle, ting, again:
Here comes bossy cow,
Strolling down the lane;
Good old bossy cow
What does she bring?
Fresh milk for us all,
Tingle, tingle, ting.

You see how easy it is to have the children make songs for themselves. It is much easier, really, with children than with grown people.

Mrs. Page.—Madam President, I think one of the most important things for us to think about, to my mind, one of the things we can remember best at the close of so full a session, is the idea that Miss Harvey voiced this morning—that we are working for qualitative results, not quantitative results. It seemed to me that it would help us to study our individual children with reference to their own growth, from the whole point of view—not simply the intellectual and moral point of view, in which, of course, we should be interested, but from the physical point of view, as well, because we cannot have qualitative results of any kind unless we know more about the capacity of the children to react to the conditions in which they are placed or with which we are trying to surround them.

DEPARTMENT OF ELEMENTARY EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—THOMAS A. MOTT, superintendent of schools ..... Richmond, Ind.
Vice-President—JOHN S. WELCH, supervisor of grammar grades ..... Salt Lake City, Utah
Secretary—MISS MARGARET CANTY, supervisor of primary work ..... Milwaukee, Wis.

FIRST SESSION.—WEDNESDAY FORENOON, JULY, 6, 1910

The Department of Elementary Education met in South Congregational Church at 9:30 A. M., the president of the department, Thomas A. Mott, presiding. The president accepted with thanks a gavel presented by the second-year class in the Mechanic Arts High School, Boston.

The first paper was presented by H. B. Wilson, superintendent of schools, Decatur, Ill., on "Motivizing the Work of the Elementary Schools." The discussion was led by L. C. Brogden, state supervisor of elementary schools of North Carolina, Raleigh, N.C., and was continued by S. L. Heeter, superintendent of schools, St. Paul, Minn.

The second address, "English as She Is Taught," was given by Miss Adelaide Steele Baylor, superintendent of schools, Wabash, Ind. The paper was discussed by Charles S. Meek, superintendent of schools, Boise, Idaho.

Superintendent H. B. Wilson offered the following resolution:

WHEREAS, The greatest problem in the technique of teaching in the elementary schools is that of providing adequate motives for the work of the children; and

WHEREAS, The great need is for combining our forces and accumulating experiences and studying the problem; be it

Resolved, That the president of this department appoint a committee of three to study this problem and to collect a body of material showing the best results attained in motivation in the schools of the United States with the idea of reporting progress at the meeting next year, and that funds to cover the necessary expenses of this committee be asked of the proper authorities of the National Education Association.

The resolution was seconded and adopted.

The president appointed the following Committee on Nomination of Officers for the ensuing year:

Miss Margaret Canty, Milwaukee, Wis. H. B. Brown, Valparaiso, Ind.
S. L. Heeter, St. Paul, Minn.

The meeting adjourned to Friday forenoon, July 8.

SECOND SESSION.—FRIDAY FORENOON, JULY 8, 1910.

The department met in the South Congregational Church, and was called to order by President Thomas A. Mott.

President Mott appointed the following committee to report upon the "Motivation of Work in the Elementary Schools" at the next annual meeting:

H. B. Wilson, superintendent of schools, Decatur, Ill.
Thomas Agnew, Jr., principal, School No. 6, Bayonne, N.J.
Miss Gail Calmerton, supervisor of kindergartens and primary schools, Fort Wayne, Ind.

The report of the Committee on Nominations was as follows:

For *President*—Miss Adelaide Steele Baylor, superintendent of schools, Wabash, Ind.
For *Vice-President*—H. B. Wilson, superintendent of schools, Decatur, Ill.
For *Secretary*—Miss Nellie O'Keefe, Principal of McClellan School, St. Paul, Minn.

The report of the committee was on motion adopted, and the nominees were declared elected for the ensuing year.

James M. Greenwood, superintendent of schools, Kansas City, Mo., presented a paper on "Strengthening the Work of the Seventh and Eighth Grades to Fit for High School." The discussion was opened by E. H. Drake, superintendent of schools, Elkhart, Ind. The topic was further discussed by several members of the Association.

The second paper, "Character-Building in the Elementary Schools," was read by John W. Carr, superintendent of schools, Bayonne, N.J. The discussion was led by Miss Georgia Alexander, supervising principal, Indianapolis, Ind.

Another phase of the topic was discussed by Charles A. Prosser, deputy state commissioner of education, Boston, Mass.

The department then adjourned.

MARGARET CANTY, *Secretary*

PAPERS AND DISCUSSIONS

THE MOTIVATION OF THE CHILDREN'S WORK IN THE ELEMENTARY SCHOOLS

H. B. WILSON, SUPERINTENDENT OF SCHOOLS, DECATUR, ILL.

The greatest problem in the technique of teaching in the elementary schools is undoubtedly that of supplying adequate motives for the work of the pupils. Such motives, when present, insure progress and "go" in the work of the school as steam insures motion in the locomotive. Charters states the efficacy of motives forcefully and concretely when he says they are "a motor which drives, forces, pushes, impels, and incites the individual."

That adequately motived work is not more in evidence in our schools is surprising, at least from some standpoints, when it is considered that such modern views on the place of interest and motivation in education as the following (see Monroe's *History of Education*, pp. 566 ff.) were enunciated so long ago as the eighteenth century, by Rousseau:

> Education is a natural, not an artificial, process; it comes through the workings of natural instincts and interests and not through response to external force; it is an expansion of natural powers, not an acquisition of information; it is life itself, not a preparation for a future state remote in interests and characteristics from the life of childhood.

We find Godwin, an English follower of Rousseau, urging that

> all the acquisitions of the pupil shall be preceded and accompanied by desire. The best motive to learn is a perception of the value of the thing learned. The worst motive . . . . may well be affirmed to be constraint and fear.

Modern school practice evidences two very different attitudes toward school work and two approaches in organizing the same. One approach, and it is the older historically, is from the side of the curriculum, emphasizing the logical arrangement of the subject-matter of instruction, and stressing disciplinary effects. The other approaches the organization and work of the school from the standpoint of the child, proceeding psychologically and upon the basis of the child's interests.

It is necessary briefly to examine these two approaches, their grounds for existence, and their relative merits.

Those who believe in the first approach accept some general end of education as fundamental. This end need not differ from that accepted by those making their approach in the second way. They then proceed to select the knowledge and experience the race has accumulated which seems from their *adult* standpoint to be related to this goal of education. The matter selected is then graded and arranged as to difficulty, and the children are *required* to *acquire what has been planned for them.* As Professor Dewey says,

> Subject-matter furnishes the end and it determines the method. The child is simply the immature being who is to be matured; he is the superficial being who is to be deepened; his is narrow experience which is to be widened. It is his to receive, to accept. His part is fulfilled when he is ductile and docile.

Consequently, the children do not come to their work so much with the idea of solving a problem which has appeared in their play, social, or work lives as with the thought of doing what is next in a series of problems, *planned and graded by the higher powers.* This method secures work on the part of the pupil largely because he feels an outside impelling force, rather than because of the urgency of an inner, actual need which he wishes to satisfy.

Resulting from this "external presentation is lack of motivation." There is not only no apperceptive mass to "appropriate and assimilate the new, but there is no craving, no need, no demand." When this need is present it

> supplies motive for the learning. A demand which is the child's own carries him on to possess the means of accomplishment. But when material is directly supplied in the form of a lesson to be learned as a lesson, the connecting links of need and aim are conspicuous for their absence. . . . . The mechanical and dead in instruction is a result of this lack of motivation.

The second approach accepts the child as the starting-point, the center, and end of all school work. His legitimate normal needs and interests afford the basis of approach. The general goal which society sets up for the school's attainment is just as acceptable to those who choose this approach as to those who prefer the first method. Our problem is not one of a goal to "steer by" primarily; it is one of means to an end, altho, of course, what one has when the end is attained may be abundantly affected by the means employed.

Two large questions seem to arise in considering the merits of this approach. First, what effect does a definite need for and a deep personal interest in a thing exercise upon one's effort to possess it? Second, are the needs and interests of children such that they may be made the basis of attack upon such work as is legitimate in the school?

In true interest, one is entirely engrossed, or, as Professor Dewey puts

it, "taken up with some activity because of its recognized worth." Again he says, "Interest works the annihilation of the distance between the person and materials and results of instruction; it is the instrument which effects their organic unity." Charters shows that Stout and Titchner define interest as the feeling side of attention, and that when one is interested in an object, he attends to it. McMurry quotes Zeller and Osterman to justify defining interest as a feeling of value. Interest, then, from the foregoing, is a motive, since the "energy of experience is upon the focal point of attention," and since the "energy of consciousness is continually focused upon the control of values." "Energy is focalized," as Charters maintains, "when there is some value to control, some need to be satisfied, some interest to be fulfilled, or some problem to be solved." Bagley says that "apperception functions most readily along lines of interest. Interest attaches most strongly to that which has a vital relation to one's well-being."

When one turns from these theoretical views and scientific statements to test them by his own experience, he is overwhelmingly persuaded to accept them. In the life of the school, I observe that the children enter with zest into their games and into their social experiences, and also into those phases of their work which are producing values for which they have felt a need in their simple experiences. Those phases of their school experiences, however, which do not arise out of a need which they appreciate are drudgery to them which is both painful and unremunerative.

It may safely be posited, I think, that the doing of anything which is meaningless to the worker, which brings him no response to a definite, worthwhile desire, is drudgery. Space does not permit me to catalog the large amount of it in the schools, done under the protecting label, education. But let us note a few instances, at least, such as memorizing the text in history and geography; memorizing the language of the text to answer questions printed in the text; most of the defining of terms in language, grammar, geography, and arithmetic in the lower grades; looking up the meaning of words in the dictionary and using these words in sentences; memorizing such writings of the great masters as portray experiences the children cannot understand; writing compositions when the children have nothing they care to communicate; solving long and difficult problems in which the conditions are unlike anything that ever did occur or ever will occur in the world of practical affairs; and so on.

No experienced teacher, I am certain, will attempt to deny that she finds it difficult to get the children to do these things. They are drudgery: the children feel no interest in them because they supply no perceptible need in their lives.

If interest and need are so potent and the lack of them so disastrous in life and in the work of the school, the duty is imposed upon the schools of organizing their work and activities from the standpoint of the interests and needs normal to children. As Professor Dewey says,

> The teacher must be able to see what *immediate and proximate* use the child's interests are to be put in order that he may be moving along the desired lines, in the desired direction. . . . . Just how to use interest to secure growth in knowledge and in efficiency is what defines the master teacher.

However, it is not sufficient that the teacher see clearly the fitness of the details of the daily work of the school in relation to the child's proper unfoldment. In so far as possible, the child must see the relation of each task he undertakes to some personal natural, or acquired, need. One's joy in his work is dependent upon the relation the worker *believes* to exist between what he is doing and the largest goal he is seeking to attain. It is also almost an axiom that the happier one is in his work, the greater are his returns, both inner and external, both spiritual and material. Society's aim in establishing the school provides a *standard* for the teacher's action, but not a *motive* for the child's daily tasks, except in so far as the school's aim is concretely functional in the child's life. The child's dominating aim at any stage of his development is an outgrowth of his own experience and so is full of vitality and force. Judged by society's ideals, the child's present goal may be temporary or insignificant. For him, however, its realization is meaningful and all-important. Social efficiency and good citizenship are most apt to be developed in any individual, therefore, by planning that the work which the school considers essential in the realization of its aim shall be done under such conditions that it will *seem to the child* to contribute directly toward the realization of *his* chosen goal, be it native or acquired.

The school must seize upon the child's legitimate needs and desires, at the various stages in his unfoldment, and, in the light of them, plan tasks and activities which shall be intensely significant to the child, and, at the same time, economically further the realization of the school's aim. By this process, the child's aims become modified in the direction of and in harmony with society's ideals. Thus the child becomes socialized. In this socialization process, it is important that we keep clearly in mind, as Charters shows, that

> adult standards of value differ from children's standards, but this does not exclude juvenile values as motives. It simply means that they shall be reinforced, where valuable as judged by adult standards, and depreciated where the sympathetic adult sees they will be harmful.

While this problem of the adequate motivation of the work of the school is not a recent one, the new education has instituted an attack which promises results totally eclipsing the work previously done upon the matter. Starting, perhaps, with Professor Dewey's work in the elementary schools of the University of Chicago, in which the child's "sweet will" was allowed to dictate to an impractical extent, it speedily arrested attention and was soon taken up, as a problem of fundamental importance, in other experimental and private schools, and the last few years have wit-

nessed much sane and effective work on the matter in the more progressive public-school systems.

It is with no thought of solving the problem that I discuss it here. Like the course of study, motivation must be a living, growing, developing means of aiding school work, or, like the daily newspaper, it must be a living thing, adjusting itself to the conditions and ideals as they vary with communities and with the changes wrought by time.

There is a widespread need for an honest effort on the part of capable school officers to secure that organization and execution of school work which is vitalized by the presence of adequate motives for its performance, in the lives of the children. Clearly there are, at least, two standpoints from which to attack the problem. Beginning from the side of the child, the work should be organized, as rapidly as we are capable of doing it, about a series of motives, varying from year to year, and with different teachers, which seem to be normal to the children of a given community in each of the grades or years of the school course. This requires careful study of the child to discover situations in which he lacks control, and then the organization of subject-matter to supply the needed control. Or, working from the standpoint of the present course of study—and some feel this to be the more rational and conservative attack—situations should be developed by the teacher which will cause the child to feel the need for the subject-matter which is to be developed next. It is altogether probable, I think, that the most satisfactory results will be accomplished by attacking the matter from both standpoints. Each approach has strong points to commend it.

The time remaining to me will permit but a few brief suggestions in reference to the sources of motives in some of the elementary-school branches and a few illustrations of results attained. Motives in *drawing* grow out of the fact that it is a means of decoration and expression. Ideas not only tend to express themselves in action, but they seek manifold expression, hence a child is moved to greater effort in his drawing work by seeing that it provides an additional and useful means of expression. Children like to decorate or illustrate their compositions; they enjoy planning and executing scenery suitable for their dramatizations; they see the need of being able to execute and interpret a drawing in manual training; they work untiringly in an effort to produce the best cover design for the annual report of the Board of Education, or for the school paper, or the best design for the decoration of the blackboards, the window curtains, the table cover, the office couch cover, the community rug which is woven to spread in front of the teacher's desk, or to secure the prize in the *Review's* (a local newspaper) drawing contest, and so on. Seeing these needs of ability to draw well supplies motives for the work, stimulates to greater endeavors, and insures greater results.

Children evidence much more interest in their *manual-training* work when they are concerned with a problem of some social significance. Not

only does the making of something which is to render some actual service supply a motive; but this motive is intensified if the work under way is developed co-operatively, as in furnishing a playhouse, in dressing a doll for a sick child, in making a dress for a poor child, in making some laundry bags for a charitable institution, in building a bookcase, a couch, a chair, or a table for the office, in weaving waste-baskets for the schoolrooms, and in constructing needed shop equipment. Finding real use for such ability spurs children to seek to develop skill in manual processes. The desire to acquire this skill vitalizes all of the practice exercises and so lifts them out of the field of drudgery, where they were when, in the earlier history of manual training, these practice exercises were presented for their own sake so far as the child was able to see.

Probably the strongest spur to acquire the ability to *read* is an appreciation on the part of the child of the social value of this ability. He can be led to see that this ability will enable him to gain ideas which he needs in solving some problems confronting him, and that it will render him capable of aiding and entertaining his friends and classmates. Every teacher knows that a child's reading is most efficient when the reader presents something, it may be from his out-of-school reading, which to him is valuable, to an audience which is sympathetic, but which is lacking in a full knowledge of what he presents. What motive has a child in his reading when he is one of forty all of whom are engaged in reading exactly the same book, and in preparing and reciting the same lessons day after day? What motive for reading aloud has he when all in the class are reading the same matter from their open books and carefully watching to discover any error he may make? His whole natural tendency to read, to communicate, is ignored by such methods.

The motive stimulating the child to effort in his *language* work is the desire to communicate for the purpose of learning, instructing, or entertaining. Teachers are beginning to afford children opportunities to write, in the language period, actual expressions of their interest and experience. Formerly "what the school asked children to express they had no desire to express; and what they might choose to say the school regarded as trivial." Children wrote compositions because they had to say something rather than because they had anything to say. Now, children may select superlative experiences and write them for reading to a definite audience. They may write upon themes of value to them and of probable interest to others. Teachers are discovering in training children in mere matters of courtesy and politeness effective motives for the most valuable language work. Teachers are allowing children to use the language period to organize in written form their wishes and desires. Miss Jenkins, supervisor of elementary grades in the schools under my supervision, in reporting to me upon the progress we have made in the motivation of the language work during the past year, calls attention to the fact that

letter-writing has been a necessity. There have been many people to thank for courtesies extended to a class or a school. Mrs. Evans of the Public Library for opening a branch library in each of the three schools; Mrs. Powers for loaning Indian baskets; Mrs. McKibbon for loaning an Indian blanket; Mr. Torrence, the superintendent of parks, for furnishing a privet hedge; Mr. Davis for carriages to transport the children who went to sing in the hospitals at Easter-time. The children are learning *when* and *how* to say thank you. Again the letter has been used as a means of informing the superintendent, supervisors, and special teachers, of interesting events in the schoolrooms, or as a medium by which requests for needed materials might be made. . . . . Twice during the year children have seen that their interests might be furthered by addressing dignified bodies, having these interests in charge, so the City Council received a letter telling of Mr. Torrence's care for the children in the parks, and the superintendent was asked to bring the matter of improving the playground to the attention of the Board of Education.

One of the most effective motives employed in the language work has been the dramatization of some story, a reading-lesson, or some period in history, in the production of a simple entertainment to be executed at a meeting of the mother's club of some school, or before the school during the weekly assembly period, perhaps.

When the children are struggling with such live personal problems, need for the mastery of the conventional language-forms naturally arises. Progress is impeded until the need is overcome. Consequently the mastery of form is intensely motivated. The pupil undertakes the mastery of form and of technical matters when he meets the difficulty the form was developed to remove. Pupils are anxious to master a form when they see that language devoid of form is deficient in accomplishing the purpose for which they wish to employ it. The child sees that punctuation is needed to show the relation between his thought for the sake of definiteness in communication. If the child sees an error he regretted to make, he will study punctuation, under the guidance of the teacher as need arises. The time to teach the law of unity in the paragraph is when the pupil sees that his failure to observe the law results in not making clear what he wishes to say, and so on, until motives for teaching correct spelling, proper capitalization, approved sentence-structure, and accepted grammatical English have been supplied.

I have purposely limited my topic to the question of supplying motives for the work of the children. I do not wish this to imply, however, that the work of the teacher does not need motivation, also. It does need it, and that badly. It needs it not only that she may be happier, but that the work of the entire system may be improved. She now does an untold number of irksome, unrelated things, the doing of which has developed a high order of drudgery thruout.

This condition will not change except as the superintendents of this country come to recognize the importance of the teacher's daily schoolroom experiences in shaping the policies and methods of the school. She alone knows how poorly some of them "work," or rather how they do not "work," and what is needed to bring improvement. How much longer shall we

continue to nurse our "bumps of egotism," neglect the teacher's counsel which the schools so much need for their improvement, and keep the teachers and children leading narrow, dwarfed lives, because they are occupied with drudgery? Let us take them into our counsel, and in the light of their experiences, readjust the course of study, eliminating the dead, obsolete matter, and improving and vitalizing our methods of attack upon that retained.

My discussion must not be understood to imply that subject-matter itself may not be intrinsically interesting, when there is no conscious effort on the part of the teacher to render it so. That children find it so, especially in the higher grades, no experienced teacher doubts.

If I have succeeded in saying what I believe, I have not been standing for easy work nor for less work in the schools. I have been maintaining rather that school work is serious, genuine work, shot thru and thru with a keen appreciation by the worker of its value to him. As Bagley says, "Work and effort are fundamental in education, but the task of education may be materially simplified by leading the child as rapidly as possible to see the need in his own life for the work he does in school." This condition insures that the child will accomplish more work and expend more remunerative effort, for he will go to his work under that high pressure which results from the inspiration and urgency of a genuine need. I believe in the authority of the school and in its responsibility for determining the work of the school; but I also believe that, while "authority is the buttress of the school," as Charters shows, "other motives than that of mere obedience may and should be used."

I do wish, however, to say emphatically that I do not feel that it is a part of the conscious business of the school to provide a certain amount of drudgery that the power of doggedly attacking difficult and distasteful subjects may not atrophy in our children, as our German critic, Professor Foerster, and a large body of sentimental American pedagogs seem to fear it may. I know of no reputable physician nor of any expert in dietetics who maintains that value will result to my body if I aggravate the digestive process and render its performance more difficult. Drudgery is not necessary here, altho one's digestive apparatus must do hard work even when the food is entirely wholesome and ideally adapted to satisfy the user's bodily needs. It is not distasteful duties, obstreperous difficulties, and hindering causes, as such, which produce giants. It is capacity, and evidence is yet wanting to show that this capacity does not attain a fuller fruition when occupied in serious, pleasurable work than when occupied with drudgery. There is, however, much evidence on the other side of the question, from physical trainers, physicians, and pedagogs if need required its presentation and time permitted.

In concluding, let me remind you that we do not yet see how to supply motives for all of the work it seems wise to ask the children to do. Until

we do, we must go right on imposing work, and rendering it interesting thru the methods of presentation employed. Let us work faithfully, however, feeling that we are weak until this shortage is almost, if not entirely, eradicated. Let us have the courage to omit gradually such work as seems to lack significance for the children. All careful students of the matter know there is more whose significance is evident than it is possible to find time to use, and, fortunately, it is all productive of the values the schools claim to be striving to secure.

Let us remember, also, that time will be required to develop a technique of working from this standpoint of interest which will seem as satisfactory as the technique it must supplant has seemed. The establishment of a new technique requires battling against the authority of the old, and against the persistence of the habits of thought and action which the old technique has established. Progress is certain in both matter and method if we move conservatively and wisely. Radical departures and unusual experiments on this problem must be left to special and experimental schools; but the public school, proceeding upon the basis of a definite course of study, can do much to aid the improvement. Freedom to depart from the prescribed course to test another well-matured plan in some subject, or subjects, may safely and wisely be extended to certain of the strongest teachers in the system. Teachers should be encouraged to take the initiative in this way. When the success of such a test warrants, the methods and results can be presented to all of the teachers for their guidance.

With all the educational forces unified on this problem, there is reason to hope for rather rapid strides. It will soon come to be true, I believe, that the *child's* motive in *study* will be far greater than merely getting ready to prove his knowledge in recitation, and that his motive in *recitation* will be much larger than proving that he knows what his classmates and teacher are all supposed to know. The sitting, looking, listening, and answering, now so much in evidence, are to be superseded by thinking, planning, creating, initiating, and executing. We are going to organize our work and our methods so that the child may come to school, not only with his whole body, but with his whole mind, and all of his rich experiences, and find that they are all related to his school tasks in such ways that he leaves the school with a healthier body and a fuller mind. We are going to adopt, in spirit, if not in form, Baldwin's motto for his elementary school, namely, "A live child in a live school learning to live by living each day in the school." As Professor Dewey indicates,

> If we seek the kingdom of heaven educationally, all other things shall be added unto us, which being interpreted is that as we identify ourselves with the real instincts and needs of childhood and seek only after its fullest assertion and growth, the practical ability, discipline, information, and culture of adult life shall all come in their due season.

DISCUSSION

L. C. Brogden, state supervisor of elementary schools, Raleigh, N.C.—My own thought so thoroly coincides with the point of view so well defined in Superintendent Wilson's paper that I find nothing to dissent from. On account of the short time allotted to the discussion, I can only hope to refer to some of the underlying principles of the subject without going into the details of their application. Motive is interest at work in the realization of the end, or in the solution of the problem which it has set for itself to reach or set for itself to solve, the realization of which it feels will enhance the value of self and therefore has meaning and worth for it.

The educational doctrine of motive becomes identical with the educational doctrine of interest. While motive may originate directly from interest, yet both interest and motive have their "primary root" "in inherited impulse" to self-expression, to self-realization. The vital point is that the source of this activity is internal, and not external, that it proceeds from the self-activity of consciousness and is not imposed from without.

In the life of the world about us, whether in the industrial or professional activities, we find genuine motive at work. There is a clearly defined end to be realized, a vital problem to be solved, a particular situation to be met, which end, problem, or situation, self thru its own activity has set for itself and which it is struggling to make real. The laboring man is striving to make real his idea of physical comfort and material happiness for himself and family, the teacher is trying to make real her goal of a larger teaching efficiency, the statesman is struggling to make real his idea of a larger social service. In proportion as these ends to be attained, these goals to be reached, and these problems to be solved are the projections of the inner life in its struggle to self-realization, in that proportion will they have meaning and worth for the self, in that proportion will interest become intense and motive effective, and in that proportion will voluntary effort become sustained and the sense of drudgery become minimized. If the inner life of the teacher sets up for its clearly defined goal a larger teaching efficiency, then will her voluntary attention be sustained, then will her application be persistent, and then will her daily tedious routine of work take on a different hue and the feeling of drudgery associated with it will become minimized.

But it is equally true that in proportion as the ends of action, the goals, and the problems, are not the projection of the inner life in its struggle for self-expression but are imposed from without and therefore can have no vital meaning for this inner life, in that proportion will genuine interest and motive be impossible, voluntary effort spasmodic and unsustained, and the sense of drudgery intensified.

To motivize the work of the school means that in the life of the school, the self-activity of the pupil must count for its full value, that his most dominant impulses must neither be ignored nor repressed, neither indulged nor left to chance, but must be organized and directed.

The problem of motivizing the work of the school involves both the organization of the subject-matter of instruction and its method of presentation. The vital principle underlying the organization of this subject-matter is that it shall be organized with reference to the nature of the child, with reference to the nature and needs of the well-recognized and characteristic stages of his mental growth; that it shall not only be organized with reference to the present needs of any given stage in his mental growth, but that the subject-matter in each stage shall be organized with reference to an adequate preparation of the higher need of each succeeding stage; that the subject-matter for the first years of the child's school life shall be organized with reference to the "concrete in pupil activities and the concrete in adult pursuits" rather than measured in terms of quantities of subject-matter to be learned; and that finally, starting from the child's unified and undifferentiated experience, each subject shall be organized with reference to its own internal structure, and with reference to its continuity of unfolding in the life of the child.

According to Dr. Dewey, the mental stages in the growth of the child to which the plan of organizing the subject-matter of instruction shall conform are three, viz., (1) the stage of spontaneous attention with its corresponding period of play; (2) the stage of active attention with its corresponding period of technique; (3) the stage of reflective attention with its period of intellectual questioning.

The fundamental principle underlying the scientific presentation of the subject-matter after it has been organized in accordance with the essential principles heretofore suggested, is that it shall be presented according to the apperceptive stages of the child, in accordance with the particular apperceptive stage in which he may be, that the material shall not be ready-made and placed before him, that his problems shall not be solved for him, but that he shall be brought face to face with the real situation and real problems arising out of the needs of his own life and led to meet these situations and to solve these problems thru his own self-activity. To fulfill the demands for genuine interest and effective motive from the standpoint of method in the presentation of this subject-matter, in the language of Professor James,

> Begin with the line of his native interests, and offer him objects that have some immediate connection with these; next, step by step, connect with these first objects and experiences, the later objects and ideas which you wish to instill. Associate the new with the old in some natural and telling way, so that the interest, being shed alway from point to point, finally suffuses the entire system of objects of thought.

S. L. Heeter, superintendent of schools, St. Paul, Minn.—This is no new subject. We are working pretty hard a new word, for "motivation" not only expresses the chief problem in present-day technical teaching but it also expresses the chief characteristic of a movement in education which has been continuous for a hundred years. There has been no advance in education either in Europe or America, whether in theory or practice, in the organization of the schools, in the construction of the curriculum, the selection of subject-matter, the method of presentation, the art of teaching—no advance in the aim of education which has been set up except an advance toward the child. The dominating tendency in educational practice today is to supply the child more and more with motives for action all thru the long process of his development. The appeal to the child, his interest, his conscious needs, and his immediate life, has been and is the chief desideratum.

In these closing minutes of this discussion I set before you in large perspective a tendency that we see on every hand, in every modern school, and with every modern teacher—a tendency toward motivation. First, in our attitude toward the curriculum. We have multiplied our subjects, extended the range of our subject-matter, enriched and enriched, introduced arts and crafts, games and plays, occupations and industries, comprehensive schemes for the training of body, head, hand, and heart; we have democratized, socialized, kindergartenized, industrialized, vitalized, and psychologized our curriculum, and it has all been in this movement toward motivation.

Second, it is not only in our subject-matter but in our methods of presentation. We motivize the work in our schools as we vitalize methods. We have developed the art of teaching. There is such a thing as the fine art of presentation. We now put a premium on development, on objective, concrete, illustrated teaching, on the inductive method of approach. The laboratory system prevails from the kindergarten to the high school. We have not abolished drill, but we have assigned it its proper place in the teaching-process. It now follows rather than precedes development, generalization, rule, and definition. We have led our teachers to see that the compelling powers of the child must come from within rather than from without, and that the nature of subject-matter together with skill in its presentation must possess the child with an irresistible impulse to act, to do things. A large part of the teacher's fine art lies in the preparation of her own lesson, in her own lesson plan, in the clear, intelligent, enthusiastic assignment, in the skill of questioning, in the art of conducting recitations, in methods of teaching.

Third, we motivize the work in our schools as we vitalize the teacher, as we raise our standards and render compensation commensurate with the spirit and quality of the service rendered. There is no other labor, vocation, or profession, that calls for so much of vitality, red blood, physical, mental, and moral health. When a teacher fails to find in each new day some new situation, some new stimulus and new enthusiasm; when she ceases to teach with emotional vigor and her interests grow feeble and her actions mechanical; when she finds herself giving way to depression and allowing her mind to wander in the dark places of the future; when her temperature goes down under criticism, and she finds herself afflicted with the little worries that belong to her profession; when authorities do not act to please her, and she tells her little troubles to everyone she meets; when her conversation begins to run to the minor, and she sees nothing in the world but black—that's the time, if the work of the child is to be motivized, when she must begin some self-treatment of mental hygiene, the time for her to join once more in the songs of her children, to feed her soul upon their youthful eyes, to entertain with one more new story, to read for herself one more romance, to take an excursion in the open air, or to challenge some friend to an outdoor game.

Would you motivize the work in your schools? Vitalize your teacher. Enlarge her sphere to include the aims and interests of her children; let her see her own life and her own life's work writ in large letters; let her make the lives of her pupils her own supreme object, and devote herself unreservedly to the lasting good of childhood. Then your children will no more fail to respond to her appeal than earth's fertile soil will lie dormant under sunshine and rain.

Fourth, motivize the work of your children by vitalizing your own aim. I suppose some general end in education must be fundamental. It matters not in what terms you express it. Whether in terms of culture, knowledge, adjustment, experience, character, citizenship, social efficiency; it matters not whether you industrialize, commercialize, vocationalize your courses, or whether your training becomes more and more practical and more and more closely related to the prospective needs of the child, motivizing the work in our schools is opposed to any distant goal. The end must not be remote. The adult's carefully worked out, final aim in education cannot furnish the pupil, day after day, in the schoolroom with sufficient motive to do. Consequently, health, head, hand, and heart may continue to constitute the fourfold aim of education: the first calling for the training of the body, ending in proper habits of health; the second for the training of the head, leading to a usable intelligence; the third for the training of the hand, contributing to a working efficiency; and the fourth for the education of the heart, terminating in an abiding character. Health must come first, for without health one is only an invalid. Intelligence second with health, but without intelligence, one is only an idiot. The hand, third, with health, with intelligence; but without the training of the untrained hand, without skill in labor, and habits of industry, one is only a tramp, possibly a parasite, sucking the life-blood out of society. The heart fourth, with health, with intelligence, with efficiency in daily life, but without education of the heart, without character, one is at least a sinner if not a criminal. The world is still too full of invalids, idiots, tramps, and sinners, and yet if we motivize the work in our schools five days in the week, ten months in every year, in training for health, intelligence, efficiency, and conduct, we must supply the child from hour to hour and day to day with incentives to act on the immediate thing in hand. We must meet the ever-present, conscious needs of the child—needs of the body for his health's sake, needs of the brain for his mind's sake, needs of the hands for very life's sake, needs of the heart for his present and future's sake. Vitalize your subject-matter, vitalize your methods of teaching, and vitalize your teacher, then finally localize and focalize your aims on the ever-present needs of the child, and you will motivize the work of your school.

ENGLISH IN THE ELEMENTARY SCHOOLS

ADELAIDE STEELE BAYLOR, SUPERINTENDENT OF SCHOOLS, WABASH, IND.

When we consider that from 40 to 50 per cent. of all the time in the elementary-school curriculum is given over to English and the subjects we recognize as most closely allied to it, while against no portion of the school work—when results are investigated—is there greater and perhaps more justifiable criticism, we are confronted with a proposition that is really appalling.

No subject, in recent years, has received more attention at the hands of the teaching force than English. Over a decade ago, more than a dozen national and sectional conferences had been held to repair the gross evils in the teaching of English, while general and local organizations, clubs, and committees have continued to put forth untiring efforts to investigate and improve the work. The courses of study in English in the elementary and secondary schools have become the most elaborate of the curriculum, and the standing of schools has grown to be reckoned largely by the conformity of the English work to accepted standards.

The qualifications of elementary-school teachers have been based upon their extensive preparation in the subject of English, a criterion that has led to the special pride taken by normal schools and higher institutions of learning in their extensive English courses.

But, with all this, behold the results! Children still fail to express themselves correctly, clearly, forcibly, and attractively in the mother-tongue, either orally or with the pen.

We have dropped technical grammar and substituted language-lessons in the grades, believing that the concrete things of life and literature are more fundamental, and that formal grammar with its logical and psychological bearings belongs to the mature mind as a study for judgment rather than a guide in speaking and writing.

Oral reading is being emphasized—to the sacrifice of silent reading, in many instances—when the main purpose must be to improve speech rather than to reinforce thought, while dramatization has been introduced into every grade of the elementary schools not only to clarify the content of the reading-matter, but to aid language as well. The time-honored essay with its abstract subject of duty, temperance, honor, or liberty, has been put far out of sight and mind, and has been replaced by the daily theme of a single paragraph or a limited number of lines dealing with, "What I Saw in the Park," "How I Spent My Vacation," "Hiawatha and His Friends," or the "Wanderings of Ulysses."

The old methods have been abandoned as too formal and abstract. What of the new ones? Despite our great and honest efforts are we not still emphasizing subject instead of subject-matter, form instead of content, and courses of study instead of pupils? When boys and girls refuse to

visit the museums and parks, as a pastime, lest they may be called upon to use this experience as a basis for language-work, have we improved sufficiently over the days when Rebecca of Sunnybrook Farm compiled her brief but pointed essay on "Joy and Duty"? When, with minds firmly fixed upon the form of speech, we have children repeat over and over again the stories we have told them, as a sort of basis for a species of verbal gymnastics, are we sufficiently removed from the methods of technical grammar? When they repeat glibly and in a stilted way, until all the fire of the living characters has been drilled out of them, the speeches put into their mouth by a dramatized text, are we giving the real substance? Are we not still bowing down to the fetich of form while the content escapes?

The child with his activities, interests, and needs, should be the basis for language-work in the schools rather than elaborate courses of literature and formal exercises. From infancy, all spontaneous expression comes from a need of the organism in relation to the environment, and whatever causes a response to that need becomes the effective instrument for future use.

The story of Helen Keller's wonderful progress in the use of language shows the superiority of the teacher who recognized neither laws nor formalities in the work, but found the method in the child, herself, with her interests and needs. Remarkable method that gave a vocabulary of four hundred words in about three months! One of the happiest things Miss Sullivan did was when she sat down to think and to ask herself this question, "How does a normal child learn language?"

"Quite different," we say, "the teaching of one child in the freedom of the home and that of many in the schoolroom." True, but nevertheless we must still admit that Miss Sullivan has developed some splendid pedagogical truths, none of more importance than that which urges us to place the pupil, frequently, in linguistic situations that correspond to his environment outside the schoolroom. With what profit might the language-teacher inquire into the content of children's minds and know something of the vocabulary used in their group activities. It is said that most high-school and college young people have two distinct forms of speech—one the style of speech used in the classroom, that is as unnatural as the etiquette of the drawing-room, and the other, their own breezy, free, natural life.

Splendid results for language work must surely come from such investigations as are being carried on at Clark University in child linguistics, of which Dr. John A. Magni, in a recent number of the *Pedagogical Seminar*, states,

> To promote a new linguistic pedagogy, based on established facts in child psychology, to arouse a deep sense of the imperative need of a better, a scientific method of language instruction in early infancy, and all thru the different grades of school, to implant, from the first, a genuine love for the very best form of the mother-tongue and create an abiding interest in the hidden phyletic contents of words, phrases, idioms, and structures of speech—these should be some of the practical results aimed at by the child linguistics.

Let the teacher familiarize herself with the outside interests of the pupils and relate these to the language-work of the school. From the normal school in Oshkosh a circular letter has been sent out among the parents, inviting them to furnish articles constructed or projects undertaken by their children or those of their acquaintance, representing nothing but spontaneous effort. Emphasis is placed upon the fact that this is not an art collection, but one of crude pieces of work that to the child fulfilled the purpose of the moment. What a wealth of materials will come to the language-teacher from such a collection and from such information. In discussing these things the children will need to convey to their listeners information concerning them—and language will come just in proportion to the zeal of their desire to convey to others the same keen enjoyment they felt, in all these special enterprises. Each will know that his special interest can become that of other children and the teacher only in so far as his language will bring them into a like situation and this very appreciation of the requirements will make the reflex mechanism of expression assert itself effectively.

A spirited little third-grade teacher in our schools tells me of much valuable information she has received from her pupils thru their outside interests. Some boys spent a summer near an encampment of some peculiar religious sect, of whom the teacher knew nothing. She entered into the spirit of their experiences and descriptions of these people, and finally when she tested their information by authoritative data, she found that the boys had depicted very faithfully these curious people.

It has been a pleasure to observe the rapid advance of her pupils in the use of their mother-tongue, and yet at no time have I ever heard what was called a language-lesson. And, too, this young woman who loves to talk and used beautiful language is wiser yet, for she knows how to keep silent and invite speech without feeling that it is her duty to continually suggest something about the form of expression. Her pupils are good linguists because they are good thinkers, and this means they are given time to think before they speak, for the results sought are power and thought rather than definite amount of work. A man of the olden time once said of God, "If you ask me I do not know, but if you do not ask me, I know very well." A girl said to her teacher, "I can do and understand perfectly, if you only won't explain it."

Some years ago a young woman undertook to teach geography, in a vital way. To prove the reality of the foreign life, she opened up a correspondence between the children far away and those of her own school. National resources, activities, and games were described in these letters and illustrative material accompanied them. But what was the great surprise of the teacher to find that not only was geography improved but the language results were even more wonderful. The children had to express themselves clearly and accurately if they expected the small boy

in Constantinople to make use of the ball and bat that accompanied the letters describing the game of baseball.

It has been said that every lesson should be a lesson in English and every teacher—no matter of what subject—should be an English teacher. Might we not say, with even greater propriety, that every lesson in English should be a lesson in something that has substance and thought and power-producing qualities, and that every teacher of English should know much about other subjects?

But what of the directive and corrective work of the teacher? The language of the teacher herself will always be a great force in correcting the forms used by the child. Literary models, when they serve a present need, will be of value, in connection with a situation that has already arisen. Let the teacher seek for such literary models as will describe the same things the children are discussing, and allow them to express their own views upon the forms they have used and those of the author. Let all correction be positive rather than negative, constructive rather than destructive, coming after freedom and spontaneity of expression have been well established and always supplying a need of the child. "You have not made your thought clear," "I do not get your meaning—can't you say it some other way?" are better from the teacher than "Say it this way, it sounds better," or repeating after the child the correct form. Good clear-cut expressions from the children may be copied on the board and allowed to take root both with and without comment. There is an opportune time and method for correcting the child's speech and the wide-awake teacher will scent such occasions and use them so that the spontaneity and freedom of expression will not be hampered thereby, and the force of the language marred. Thomas Jefferson said, with truth, "When strictness of grammar does not weaken the expression it must be attended to, but when by a small grammatical negligence, the energy of an idea is condensed, or a word stands for an idea, I hold grammatical rigor in contempt." A good thought for the teachers to dwell upon who continually impress the pupil with the idea that a complete statement is always an essential.

Good written composition work will result when a need for it is felt. Letter-writing made real by communication with real persons for a real purpose, accompanied—when occasion arises—by the examination of such interesting models of letters to children as are furnished by those of Phillips Brooks, Walter Scott, and Richard Mansfield, will make written composition a necessity and a delight. Fascinating incidents and experiences to be used in the future can best be preserved in writing, as the children will readily see, and must be couched in such language as will re-create scenes and events. Let children discuss freely their own and other written work, from the standpoint of the thought they wish to convey. One child's story may be written out by him and taken home by another child to be read to members of the latter's family. The need for

punctuation will thus be recognized and the principles and rules underlying it may be wrought out in class as occasion demands, and confirmed by the marks in literary models.

Is there a place for formal grammar in the elementary schools? The young mind is constructive, its work should be synthetic rather than analytic, but occasions might arise where some of the principles now recognized as belonging to the field of technical grammar, would supply a need of some child in his constructive work. Teachers should be ready to accept all material and reject nothing, no matter under what name it appears, if they find it a helpful resource in securing language results. But I am of the opinion that formal grammar as outlined at present will need a thoro recasting before it will serve much purpose in the elementary schools. C. R. Rounds in the June number of the *Educational Review* shows the absurdity of the varying nomenclatures in grammars, and the necessity for a thoro clearing-up of these metaphysical speculations on the names for word-relations in a sentence. When in the examination of twenty-two grammars it is found that nine different names are given to the relation expressed by the word "good" in the sentence "John is good," and sixteen different ones are given for "red," in the sentence "We painted the barn red," it is no wonder that even teachers lose sight of the essentials of a sentence in their controversies over what to call certain words relating to these essentials.

But the great era for language-work will come when the entire school curriculum has been modified by the omission of all that is obsolete and the addition of those things that pertain to group activities. Already have manual-training and domestic science when taught in a vital way proved their helpfulness in these problems. When the school becomes more closely allied with the home and social interests of the children, when mass-teaching has been superseded by that of groups and individuals, when teachers do not know less of literature, formal rhetoric, and grammar, but do know more of the order of development of the parts of speech and the evolution of the sentence, more of the problems of linguistic development, when they think how the child learns language rather than how he shall be taught language, and when language is no longer regarded as a thing in itself but as an instrument of thought, then may we look for a generation loving the great mother-tongue, taking pride in the use of her choicest and best forms, appreciating from infancy the need of proper language for utterance—a generation whose speech will tend to shape itself effectively and correctly because of the thought and power-impelling impulse from within.

DISCUSSION

Charles S. Meek, superintendent of schools, Boise, Idaho.—An inventory of the prevailing errors in the speech of the children is a necessary preliminary to a rational attempt to improve language in the schools.

Boise, Idaho, has thirty-five hundred pupils enrolled in the eight grades and seventy-

five grade teachers. This discussion presents a study of the characteristic language-errors of our schools. No claim is made for the statistical merit of this report. The results presented are by no means statistically accurate. They only indicate in a general way the situation. No attempt has been made to tabulate the technical distinctions in language, but the plan has been to deal merely with the glaring evidences of crude speech.

At the beginning of the second semester of the school year just closed, teachers in the eight grades were requested to note the language-errors of their pupils and to classify them as verb-errors, double negatives, mispronunciations that can be consistently called bad language-forms such as "git" and "jist," misuse of pronouns, adverbial errors, and colloquialisms.

A preliminary report was made in February which was suggestive only in revealing the fact that teachers were careless or unobservant both as to the character and extent of the mistakes in the vernacular of their children, and almost helpless in devising means for accumulating relevant data as to the situation. Yet Boise teachers are earnest and efficient, practically all of them are normal or college graduates and have had successful experience prior to their employment with us. Teachers become immune to the crudeness in the language of their children, just as they become accustomed to poor ventilation. The facts brought out by our preliminary report are not, I believe, such as to make our school distinctive but are typical of what any superintendent will probably learn if he investigates.

In grade meetings we discussed the weaknesses of the first report, adopted a classified outline as a basis for the study, and agreed upon a uniform plan of scoring the errors observed. The teachers were urged to encourage their children to talk freely and naturally.

I venture the assertion that our teachers now, for the first time, know the language-errors of their children with enough precision to begin work effectively for their elimination.

In considering the data to be presented you should note that of the thirty-five hundred pupils whose speech furnishes the data all but eighty-six were born of English-speaking parents.

The total numbers of mistakes observed, classified and expressed in percentages are as follows:

	1st grade	8th grade	All grades
1. Verb-errors: percentage of total of all classes	49.5	36.6	40.1
2. Double-negative: percentage of total errors of all classes	3.6	2.9	3.4
3. Mispronunciation: percentage of total of all classes	16.8	17.3	20.4
4. Misuse of pronouns: percentage of total errors	18.8	18.3	17.2
5. Adverbial errors: percentage of total errors	5.3	6.9	5.8
6. Colloquialisms: percentage of total errors	8.2	13.3	12.9

The large percentage under mispronunciation results from the fact that some teachers scored words mispronounced because they were unfamiliar rather than because of a tendency to poor English. Double negatives do not represent as large a percentage of the total because they were not scored as frequently as they occurred.

The important fact is, however, that the percentage under each class of errors is relatively constant for all grades. There is no evidence of a change in the distribution as the grades advance, and very little evidence of diminishing errors.

CLASSIFICATION OF THE VERB-ERRORS

An analysis of the verb-errors brings out the following facts:

a) Confusing the past and perfect participles occasioned 48.8 per cent. of the total verb-errors.

b) The misuse of "have," "ain't," and "got," 20.4 per cent.
c) The failure of verb and subject to agree, 8.2 per cent.
d) The misuse of "shall" and "will," 5.4 per cent.
e) The use of "and" with infinitive for "to," 5.7 per cent.

These errors are also constant and uniform thruout the grades. The confusing of the past and perfect participles scores 52.8 per cent. in the first grade, 47.2 per cent. in the eighth grade and 48.8 per cent. for all the grades. Misuse of "had," "ain't," and "got," 22.2 per cent. in the first grade, 18.9 per cent. in the eighth grade, and 20.4 per cent. for all grades. Failure of verb and subject to agree in number, 7.4 per cent. in first grade, 8.4 per cent. in the eighth grade, and 8.2 per cent. in all grades. Sequence of tenses, 1.4 per cent. in the first grade, 4.2 in the eighth grade, and 2.6 per cent. in all grades. The use of "and" with infinitive for "to," 5.5 per cent. for the first grade, 8.1 per cent. in the eighth grade, and 5.7 per cent. in all grades. Colloquialisms, 7.4 per cent. in the first grade, 9.6 per cent. in the eighth grade, and 8.6 per cent. in all grades.

Confusion in the use of past and perfect participles represents practically 50 per cent. of verb-errors. The verb-errors are 40 per cent. of errors of all kinds scored. Confusing the past and perfect participles therefore occasions 20 per cent., or one-fifth of all mistakes considered in this paper. Mistakes in past and perfect participles of "see," "come," "do," and "go" represent 50.8 per cent. of all like mistakes, or one-tenth of all mistakes scored. Nine other verbs, 33 per cent. of verbs or 6½ per cent. of total errors. If the children might be taught to use correctly the past and perfect participles of thirteen verbs, 16½ per cent. or one-sixth of all the errors in speech would be eliminated.

The important facts disclosed by the data subsequently collected are:

1. The field is limited. The poor English heard is due to frequent repetition of a few errors.
2. The percentage under each class of errors is relatively constant for all grades. There is evidence of slight change in the distribution as the grades advance.
3. This is evidence that no consistent or continuous effort at elimination of the errors has been made. Confused by the fancied complexity of the task, the teachers' efforts have been sporadic and futile.
4. The verb-errors form a very large percentage of the total errors in each grade.
5. Of the verb-errors, almost one-half are due to confusing the past and perfect participle forms. A dozen verbs include most of these errors.
6. The exact character and distribution of errors being known and a rational allotment of errors for correction in each grade being made, a great improvement in spoken English should result.

STRENGTHENING THE WORK IN THE ELEMENTARY GRADES

JAMES M. GREENWOOD, SUPERINTENDENT OF SCHOOLS, KANSAS CITY, MO.

(*An Abstract*)

STATEMENT

The contention is that the children, instead of being put to work in the elementary schools, fritter their time away in useless diversions, virtually playing at school and dealing with inane platitudes which lead to educational bankruptcy. An easy education is now the fashion and the practice. Every little bit of knowledge has to be thoroly chewed by the teacher and then spooned out in small pellets before the learner can assimilate it. There is great need of teachers who have backbone and sense, the competent, to save the children from the crowd of incompetents who do not draw a heavy line between work and play, between playing at school and working in school.

The remedy is to put the child when he is old enough and big enough to start to school to doing some things, and keep him at the important things till these can be done fairly well. Not little things, but good-sized things. How shall children be taught so as to reduce waste and wreckage to a minimum? Constructive ability should now be invoked. It is in great demand.

I will give some illustrations of what I mean in teaching geography, grammar, and arithmetic. It is held as a cardinal principle in teaching that a teacher who knows one subject thoroly and can pick out the essential truths in it, and can present them in such a manner that all the essential facts of the science will cluster about them, is in the proper mental attitude to teach other subjects efficiently. To pick out the basic facts in the elementary branches and to teach them well is a necessary prerequisite. Children get their information in shreds and patches with many skips between, and the object of chief concern is to consolidate and solidify the pupil's knowledge of each subject.

GEOGRAPHY

In geography the pupil should be taught to interpret the history of a country and the chief occupations of its people from studying a good map of that part of the earth's surface. He should, by using the foot ruler and the scale of miles given on the map, noting carefully the latitude and longitude of the country and making due allowance for the distance between the meridians, determine by measurement the approximate area, and then the density of population. By studying the watercourses, the elevation of the surface, the drainage of the country, proximity to the ocean, the prevailing winds, the killing frosts, the length of the cropping season, the pupil ought to determine what occupations the people could engage in. How to go from where the pupil lives to that country, the cost of transportation and meals, the nearest seaport, how to get to its capital, and what one would see the people doing when once there, are important steps. The teacher or some of the pupils could give a historical sketch of the country and its people. This is only the merest outline, but it will serve to indicate how to study the sixty-odd different nations of the earth.

ENGLISH GRAMMAR

In the use of the English language, children should begin the classification of sentences, according to the essential elements composing them, not later than the fourth year. There are only three kinds of sentences, according to structure, in English: (*a*) subject and verb; (*b*) subject, verb, and object; and (*c*) subject, verb, and complement, or attribute. The first is the simplest form of sentence in any language. Little children, if a type sentence is placed on the blackboard, will pick out of their reading-lessons sentences of this type till they become very familiar with this kind of sentence. Next they can attack the second type, and later the

third. Now they are prepared to use modifiers of these elements, and still later to begin essential elements that contain phrases and clauses, and likewise of the modifying elements, at first simple and on to the complex. This work should be gradually introduced. From the elements it is an easy matter to teach the parts of speech and their properties. In the last analysis all compound sentences must be reduced to simple sentences, and no sentence can have more than three essential elements in it. The clauses conform to the types of independent sentences, so that the subject may be a word, phrase, clause, or sentence; the verb may be one, two, three, or four words, but not more; the object may be a word, phrase, clause, or sentence, and the attribute element a word, phrase, or clause; the same is true of the modifying elements which are adjective or adverbial. After this the connecting elements may be introduced and will be disposed of easily enough.

All good teaching should lead up to general principles, and each principle always includes a multitude of particulars under it. In learning the structure and use of our language, the pupil needs to get hold of and firmly grasp a few fundamental truths as a working basis.

Only a few directions on sentence-making and sentence-testing are needed, or are helpful. They may be stated as follows:

a) No needless word or words should be used.

b) No necessary word should be omitted.

c) Great care should be taken to select the best word.

d) Each word, phrase, or clause should be placed in the sentence where it stands for the most in making the sentence correct, clear, and elegant.

PRIMARY ARITHMETIC

Experience has demonstrated that pupils should begin number work outside of mere counting by using concrete material, interspersed with enough abstract mechanical work to give vigor and energy to the work, and that there is real danger in concreting number work too long. Whenever a pupil or a class has learned any table by doing it and has had a few practical, illustrative exercises to fix this knowledge in making it reasonably stable, a new topic should be attacked without delay. This applies to all phases of lumber, water, dirt, animal, vegetable, measuring, weighing, doing arithmetic in the lower grades; also to getting the multiplication table by sheer will-power rather than by long over-scientific methods thinly drawn out. Briefly, during the first and second years in school, the pupil will have learned nearly all the essential and useful tables in arithmetic, if he is turned loose on them, and he will, if intelligently taught, get very clear notions of whole numbers and fractions by comparing them with one another. This is the way to lay a *concrete-abstract foundation* upon which to build a *mathematical foundation*, the object of which is to teach the learner to think in symbols rather than in things as he advances in this study.

COMMON-SCHOOL ARITHMETIC

There is no other subject, unless it be English grammar, in which the subject-matter is scattered in such reckless confusion as it is in arithmetic. There is only one addition in arithmetic, yet there are usually five kinds of addition under separate heads, and so on of subtraction, multiplication, and division. Whole numbers and fractions are not different things. The decimal point comes in with United States money; all length, surface, and volume problems should be grouped and taught together under their respective heads. The only new element is the ratio of the circumference to the radius of the circle, which value is also used in the sphere, cylinder, and cone. Instead of having some of the linear, surface, and volume problems in the early chapters in the common-school arithmetics, and the other kindred chapters in the back part of the book, all should be put together under denominate numbers.

Percentage and interest should occupy only about one-fifth of the space and time that they now do in our arithmetic. Every principle in percentage can be taught in the first, second, and third grades before the pupils ever begin a text in arithmetic. To say what part 6 is of 12; the relation of 6 to 12; the ratio of 6 to 12; or what percentage 6 is of 12, all mean the same thing. A pupil should be trained early in his school life to identify the same thing under different names.

SQUARES AND CUBES

Children thus early can be taught to square and to cube the digits, and to *unsquare* and to *uncube* them, and so of other numbers and of fractions, so that when they encounter these subjects in the back of the book they will not be unfamiliar with their nature. Even the multiplication table contains a dozen square numbers.

MENTAL ARITHMETIC

All pupils should have a tremendous drill in a good mental arithmetic. They need it and they ought to have it, cranks to the contrary notwithstanding.

CONCLUSION

The illustrations drawn from geography, grammar, and arithmetic, as solid studies, are sufficient to indicate how the subject-matter ought to be selected, arranged, and presented by the teacher to the pupil, and the method of attack by teacher and pupil. Underlying all this should be a fixed and intelligent determination in the teacher's mind to make certain data in each subject automatic in the mind of the pupil so that it is always ready for instant use whenever necessary. This knowledge the pupil should carry in his mind and not depend on his book for it. More time, too, in the upper grades should be spent in teaching the pupils how to study and how to pick out and get hold of the essential facts in each subject, and

then how to build these into a whole or unity. If this were done, the elementary pupils would come out of school 50 per cent stronger in their studies and save from one-fourth to one-fifth of the time now given to them, and be better prepared for high-school work or for taking up the burdens of life.

DISCUSSION

ELLIS H. DRAKE, superintendent of schools, Elkhart, Ind.—Among the numerous things that might be mentioned which will strengthen the seventh and eighth grades as preparation for high-school work the following particulars may be enumerated: elimination from the various lines of work of the non-essential or less important work, and at the same time the selection and emphasis of the fundamentally important; greater flexibility in the course; greater flexibility in the plan of promotion; the plan of having smaller classes; the provision of special teachers for the backward and ungraded pupils; the provision of electives as extra work for the bright children.

In addition to these, certain powers of the minds of children should be awakened to a greater degree; especially the power to think and study to best advantage and the power of adequate written and oral expression of thought. The habit of diligent application should also be fostered.

But I wish especially to emphasize in this discussion the plan of teaching, the departmental system as applied to these grades, more especially what I will choose to call the centralized department.

There are good pedagogical and psychological grounds for this plan. The average children who have reached the seventh year of the course are in the adolescent stage. It is a natural division point in their lives. New ideals and aspirations are taking hold. New views of life are forming; life is becoming more complex and youth is becoming more versatile; it is groping after greater freedom and greater responsibility. Self-discovery, self-realization, self-mastery, and self-direction are growing and ever-increasing traits of character. If the high school proper is adapted to the needs of the adolescent age, there is reason to believe that the departmental plan of the high school is the one best adapted to the beginning of this age, the seventh- and eighth-year grades.

Many advantages accrue from the system, the chief of which are the following:

First.—Better qualified teachers and better teaching. The average teacher is not qualified in all subjects. Special aptitude and love for a subject make a strong teacher. To study a certain subject enables her to specialize along the line of her native interests, to become thoro, to concentrate her energies, and enrich and vitalize her teaching. A better quality of teachers is secured, as teachers of high scholarship are willing to take this work.

Second.—It gives versatility to pupils. They come into close daily contact with different personalities, each with elements of strength not possessed by the others.

Third.—The scheme furnishes a fine preparation for the still more divided influence and more extended changing of classrooms and teachers in the high school. Children at best upon entering high school are more or less bewildered and discouraged by the change. The grade plan of work will prepare them for the high-school plan. Again, the more thoro scholarship of the departmental grade teacher will enable her to give her pupils some insight into the higher work by showing the connection between her subject and the related subject in the high school. This helps bridge the gap between the grades and the high school.

Fourth.—The plan as a whole tends to bring about freer, more self-responsible children, a higher degree of punctuality, attention, and application to study. Self-control and self-direction are fostered in pupils.

Fifth.—It tends to dignify the work of teachers and to put it on a professional basis. It augments good qualities in an ambitious teacher.

Sixth.—The efficiency of a weak teacher is increased by the standard set by her colleagues.

Seventh.—Greater thoroness of work results.

Eighth.—It develops a community of interests and purposes—a school (building) spirit, rather than a room spirit.

And it is in connection with this point I wish to speak of the centralized department and its advantages. If these grades in the smaller cities are centralized in one large building, greater interest and inspiration result. Pupils look forward to entering such schools, and the school spirit engendered holds them the longer and more closely to the work. This plan furnishes a splendid opportunity to classify children in groups according to their ability, and thus the needs of bright and slow children will be the better conserved. Extra studies can be supplied for the bright and individual instruction for the dull. Groups should not be larger than can be cared for by three or four teachers. Each group should contain both seventh- and eighth-year classes; thus the same teacher would have each class for two full years, carrying the same work thru both years. The outcome of this would be more intelligent direction of the work and greater thoroness in the results achieved.

Large cities secure the same results by centering these grades of sections of the city into single buildings in the several sections.

DEPARTMENT OF SECONDARY EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—DAVID MACKENZIE, principal of Central High School.....Detroit, Mich.
Vice-President—W. H. BARTHOLOMEW, principal of Girls' High School.....Louisville, Ky.
Secretary—ELLIS U. GRAFF, principal of High School .....Omaha, Neb.

FIRST SESSION—WEDNESDAY, JULY 6, 1910

The meeting was called to order by Vice-President Bartholomew at 9:30 A.M. in the Central Congregational Church of Boston. The absence of President Mackenzie, due to illness, was mentioned by the chairman with regret.

William R. Lasher, Erasmus Hall High School, Brooklyn, N.Y., read a paper on "Student Activities as Educational Factors in Secondary Schools."

A paper was read by William McAndrew, principal of Washington Irving High School, New York City, on the subject, "The High School Itself."

The third paper of the program, "The Opportunities of the Modern High School," was given by Charles P. Cary, state superintendent of public instruction, Madison, Wis.

These papers were discussed in three-minute speeches by J. Archer Smith, dean of J. B. Stetson University, DeLand, Fla.; Principal J. Remsen Bishop, Eastern High School, Detroit, Mich.; Principal Thomas, High School, Newton, Mass.; Principal H. P. Swett, Franklin, N.H.; Principal William H. Smiley, East Side High School, Denver, Colo.

A preliminary report of the Committee on the Cosmopolitan High School was presented by Spencer R. Smith, principal of Wendell Phillips High School, Chicago, Ill., chairman. This report was adopted.

The following resolution was adopted in regard to the articulation of high school and college:

WHEREAS, A wide range of high-school subjects is now demanded in view of the varied needs of society and the diversified interests of different students; and

WHEREAS, Manual training, commercial branches, music, household science and art, agriculture, etc., when well taught and thoroly learned are worthy of, and justly entitled to, recognition in college-entrance credits; and

WHEREAS, Colleges in certain parts of the United States continue to require two foreign languages from every applicant regardless of his dominant interest; and

WHEREAS, This requirement, in addition to such work in English, mathematics, history, and science as is essential to the high-school course of every student, precludes the possibility of giving adequate attention to these other subjects; therefore be it

Resolved, That it is the sense of the Secondary Department of the National Education Association that the interests of high-school students would be advanced by the reduction of the requirements in foreign languages to one such language and the recognition as electives of all subjects well taught in the high school; and be it further

Resolved, That it is the sense of this department that until such modification is made by the colleges, the high schools will be greatly hampered in their attempts to serve the best interests of boys and girls in the public high school.

The following Committee on Nominations was appointed by the chairman:

J. Stanley Brown, principal, Township High School, Joliet, Ill.
E. E. Scribner, Superintendent of Schools, Ishpeming, Mich.
J. M. Guise, principal, High School, St. Paul, Minn.

The meeting then adjourned.

SECOND SESSION—THURSDAY FORENOON, JULY 7, 1910

The department met in joint session with the Departments of Science and of Rural and Agricultural Education in the main room of the Central Congregational Church, with Vice-President Bartholomew presiding.

The general topic of the session was "The Practical Aspects of Science in Secondary Education, with Special Reference to the Introduction of Materials from Agriculture, Household Arts, Technical Industries, etc."

A paper was read by William R. Hart, professor in Agricultural College, Amherst, Mass., on "The Pedagogical Viewpoint."

W. J. V. Osterhaut, professor in Harvard University, Cambridge, Mass., presented a paper on "The Scientific Viewpoint."

These papers were discussed with reference to the various subjects of science as follows:

Physics—William Orr, deputy state commissioner of education, Boston, Mass.

Chemistry—Joseph S. Mills, High School of Commerce, New York City, N.Y.

Zoölogy—Chester Mathewson, Brooklyn Normal School, Brooklyn, N.Y.

Physiology—Louis Murbach, head of high-school biological instruction, Detroit, Mich.

A report of the Committee on College-Entrance Credit for Graduates of High Schools Teaching Agriculture, A. B. Graham, Ohio State University, Columbus, Ohio, chairman, was read by C. H. Robison, Montclair State Normal School, Montclair, N.J.

The papers above presented were discussed by Professor Hall, Harvard University, Cambridge, Mass.

The Committee on Nominations made the following report:

For *President*—H. M. Barrett, principal, Pueblo High School, Pueblo, Colo.
For *Vice-President*—W. F. Lewis, principal, High School, Port Huron, Mich.
For *Secretary*—W. J. McCormack, principal, Township High School, LaSalle, Ill.

These officers were elected.

The meeting then adjourned.

THIRD SESSION—FRIDAY FORENOON, JULY 8, 1910

The department met in round-table conferences at 9:30 A.M. as follows:

A. ENGLISH—Chairman, Edwin L. Miller, head of the English Department of the Central High School, Detroit, Mich

1. "Two Ideals of Teaching Composition," Fred Newton Scott, head of the Department of Rhetoric, University of Michigan, Ann Arbor, Mich.

2. "Rebuilding an English Course," Edwin L. Miller, head of English Department, Central High School, Detroit, Mich.

3. "Essential Principles in Teaching English," Charles Swain Thomas, head of English Department, High School, Newton, Mass.

B. HISTORY—Chairman, George Edward Marshall, principal, High School, Davenport, Iowa.

Introductory remarks by the chairman.

Topic: "What Facts in American History Should Be Emphasized Today in Secondary Schools?" Discussed by F. R. Goodwin, Ohio; Harry P. Swett, Franklin, N.H.; J. Stanley Brown, Joliet, Ill.

Topic: "What Is the Proper Aim of History-Teaching in Secondary Schools?" Discussed by Miss Bucknam, J. P. Womack, Magnolia, Ark.; Mr. Moore; Mr. Christophelsmeier.

Topic: "Has the Historical Novel Any Value as an Aid to History-Teaching?" Discussed by C. R. Gates, Mary H. Leonard, C. C. Kohl.

C. LATIN—Chairman, Ernst Riess, Boys' High School, Brooklyn, N.Y.

1. "The Oral Method in the Teaching of Latin," Gonzales Lodge, Professor in Teachers College, New York City, N.Y.

Discussion opened by John C. Kirtland, Phillips Exeter Academy, Exeter, N.H.

2. "Natural and Artificial Stimuli in Teaching Latin," Ernst Riess, Boys' High School, Brooklyn, N.Y.

Discussion opened by J. E. Barss, Hotchkiss School, Lakeville, Conn., and W. F. Abbot, Classical High School, Worcester, Mass.

D. MATHEMATICS—Chairman, Thomas J. McCormack, principal, Township High School, LaSalle, Ill.

"Why Do We Study Mathematics; A Historical and Philosophical Retrospect," Thomas J. McCormack, principal, Township High School, LaSalle, Ill.

Discussion

a) "The Practical Limitations of an Ideal Course in American Secondary Mathematics, and the Educational Waste or Economy in the Proposed Sequences of Studies," John Shaw French, principal, Morris Heights School, Providence, R. I.

b) "Preliminary Report of the 'National Geometry Syllabus Committee' and its Practical Pedagogical Implications," William Betz, East High School, Rochester, N.Y.

c) "Applied Problems and the Rôle of Formal Drawing in Secondary Mathematics," William E. Breckenridge, Stuyvesant High School, New York City, N.Y.

E. MODERN FOREIGN LANGUAGES—Chairman, Frederick Monteser, De Witt Clinton High School, New York City, N.Y.

Topic: "The Direct Method of Teaching Modern Languages."

a) "Modern Language Teaching in New England," Julius Tuckerman, Central High School, Springfield, Mass.

b) "The Direct Method of Teaching Modern Languages, and Present Conditions in Our Schools," Frederick Monteser, De Witt Clinton High School, New York City, N.Y.

Discussion opened by Carl A. Krause, Jamaica High School, Jamaica, N.Y.

c) "Writing in German," John A. Bole, Eastern District High School, Brooklyn, N.Y.

ELLIS U. GRAFF, *Secretary*.

PAPERS AND DISCUSSIONS

SCHOOL ACTIVITIES AS AN EDUCATIONAL FACTOR IN SECONDARY SCHOOLS

WILLIAM R. LASHER, ERASMUS HALL HIGH SCHOOL, BROOKLYN, N. Y.

In bringing together the large numbers of pupils who constitute the attendance of the ordinary urban high school, the conditions for a great deal of student activity are of necessity created. The desire to associate with others for the accomplishment of a common purpose is inborn. At the secondary-school period of life lasting friendships are formed. Boys and girls of this age delight in forming clubs, and, as a consequence, organizations, some social, some athletic, and some scholastic, spring up in large numbers.

The control and direction of athletics is now quite generally recognized as a school function; but toward the many other forms of student activity, school authorities assume various attitudes. Some authorities are in general hostile, the larger number are indifferent and allow these activities

to develop and proceed in their own way with little or no direction or interference, a few actively support and encourage them in all their legitimate phases.

It is safe to say that in no school in this country is there a greater number and greater variety of student organizations than in Erasmus Hall High School of Brooklyn, N.Y. Since its foundation in 1896, it has been the policy of this school to welcome every organization that arises among its pupils provided the purpose for which the organization exists is a good one. One group of pupils formed an excursion club for the purpose of visiting manufacturing and power plants of scientific interest; another group of pupils formed the "Monday Club" for the encouragement of original work in literature; a group of girls who were doing especially good work in mathematics formed the "X Y Z Club"; other groups formed fraternities and sororities for purposes largely social; and so on thru a long and exceedingly varied list.

Toward all of these the principal has assumed a uniform attitude of approval and encouragement, the main restriction imposed being that each organization must secure some member of the faculty to be responsible in a general way for seeing that the affairs of the organization are conducted in a proper manner.

The result of this liberal policy has been that the school has become the center of a great deal of student activity, some of it purely social, some of it scholast c and connected more or less intimately with the work of the classrooms. The field covered by the many organizations engaged in this work is so wide that few of the three thousand pupils are likely to remain in school for the full course without having some part in it.

A new and unique organization is the Arista League inaugurated during the past year. It is an honor society. Its purpose is the recognition of a high grade of scholarship combined with exceptional character. It has aroused a great deal of interest, and has been extended to a number of the New York City high schools. It is expected that this organization will occupy in these high schools a position somewhat analogous to that occupied by Phi Beta Kappa in the colleges.

The presidents of the sections have lately been organized into a congress of presidents. These class presidents are regarded as school officers. They take charge of their rooms if the teacher happens to be absent. They are elected by the pupils, but a recent regulation places certain qualifications of scholarship and faculty approval upon the candidates. This movement is an attempt to secure student co-operation in the general management and discipline of the school. As these pupils combine scholarship and school standing with the qualifications of leadership necessary to secure their election by their fellows, they undoubtedly form an organization which is a powerful factor in developing the right sort of school sentiment.

The class sections and the eight grades of the school are encouraged in any form of social activity in which they may choose to engage. They have spreads and dances, and give entertainments. A rather elaborate lawn production of the *Midsummer Night's Dream* was given a year ago by one of the grades.

The work of the different organizations is unified by certain central bodies. The athletic and scholastic organizations are financed by the General Organization which is composed of practically the whole student body. The fraternities have a fraternity congress, and the class presidents have the before-mentioned congress of presidents which unifies the activities which center round the classes as units.

In this way the school is able not only to keep in close touch with all of its many activities but also to exercise a salutary direction and control over them. Admission to many of the organizations is conditioned upon scholarship. This is true of organizations like the fraternities, which exist largely for social purposes. Reports of the scholarship of fraternity members are made to the principal each term, and pupils who have lapsed badly in their school work are suspended from these societies.

The interest in some of these activities is exceedingly keen, the rivalry often intense but practically always good-natured and healthful. One of the events of each term is the election of the officers of the General Organization. This election is conducted as nearly as possible like a general state or national election. Each candidate must be nominated by a speech in chapel before the whole student body; no other restriction is placed upon nominees. The pupils are provided with printed ballots. Each class section constitutes an election district. The votes are canvassed by a committee composed of teachers and pupils and the scenes in the big chapel when the results from the different "precincts" are being announced is as animated and as interesting as are the scenes around the bulletins on the night of a general election.

The method involving public nomination of candidates and a full vote of the school by secret ballot works admirably. The pupils vote with careful discrimination. A candidate must have character and standing in the school in order to win. Fine athletic ability alone is not sufficient. It is found that publicity and a full expression of the popular will work in a great high school much as they do in the larger world of politics. The great mass of voters are, in general, on the right side of things.

Another feature of this election consists of the elaborate picture posters used to set forth the qualifications of the respective cand dates. So much time is spent by pupils in the preparation of these that it has been thought wise to encourage the making of posters of real merit. Accordingly, at the last election, medals were offered for the finest posters, and awards were made by a committee from the Art Department.

Summed up in brief, the general policy of the school is so to control

these student activities as to eliminate any harmful tendencies that may exist in them, and to make them an influence for good, not only to those who have part in them, but to the school as a whole. The principal (Dr. Walter B. Gunnison), believes thoroly in these various forms of student organization. He believes that he has a much more intimate and personal control over the hundreds of pupils under his charge, thru and by means of these organizations, than he could possibly have without them.

The general attitude of the school toward these organizations and the participation of teachers in their work has had an appreciable effect upon the general *morale* of the student body. Certain characteristics of the school are traceable in a considerable measure to its policy upon this question. An unusually fine personal and friendly relation exists between the members of the faculty and the students. There is an intense and lasting loyalty to the school among its pupils and its graduates. The pupils are interested in the school, happy in its work, and consequently remain, thus reducing the school mortality. Erasmus Hall has, comparatively speaking, a small percentage of pupils who are discharged before graduation.

Speaking of the general problem, we must of course recognize the danger that organizations composed of young and inexperienced pupils may develop along harmful lines. Everyone knows of the difficulties that have arisen in many parts of the country in connection with the high-school fraternities, upon which societies this National Education Association placed the ban of its disapproval in a series of vigorously worded resolutions at Asbury Park. Everyone who has had to do with school athletics knows the many difficulties that arise in connection with that phase of school activity. How to eliminate bad games and the bad features of good games; how to organize games in which a large percentage of the pupils may participate instead of catering only to those of unusual athletic ability; how to create a proper spirit in athletics, i.e., how to develop good winners and good losers; all these are questions which tax the patience and the ingenuity of those who have to deal with this work. Members of scholastic and social organizations may be intolerant and snobbish in their treatment of members of organizations other than their own. Pupils with a genius for organization and leadership, a genius by no means to be despised, may give too much time to school organizations and too little to their books. All of these are harmful tendencies, some of them of considerable magnitude. All of them emphasize the need of careful regulation of student activities and in flagrant cases, of vigorous suppression.

It can be safely laid down as a general rule that the school that does only repressive work in connection with these organizations will have little success in dealing with them. It is better to spend a little time in building up good organizations than to spend a great deal of time in the demoralizing, animosity-engendering process of tearing down bad ones that have grown up without direction.

The school which has this work well organized has the most efficient means for remedying its difficulties. It has been found possible at Erasmus Hall so to regulate social affairs that they shall not occur on evenings that are followed by a school day and also that they shall not be continued to an unseemly hour of the night. The most efficient remedy for intolerance and hostility among these bodies is the central organization in which the members of the various branch societies can meet and discuss matters of common interest. Nothing removes misunderstanding so readily as to be able to meet on some common ground those against whom we have an unreasoning prejudice. A spirit of toleration for organizations other than one's own is worth going far to inculcate.

The field of this work is so broad that school men of the strongest likes and dislikes can find much of which they may approve. Few teachers have ever entered heartily into this sort of work without feeling amply repaid for their endeavors. A teacher who confines his life-work to the mere giving of instruction in the classroom is losing most of the things that are really worth while in a teacher's life. It is far more delightful to work with pupils than to work at them. The days when the teacher drives are unhappy days. Unfortunately these days are many. Corporal punishment has been abolished, but the air of many recitation rooms is full of the sound of metaphoric lashings as the teacher drives unwilling pupils on to their tasks. The changed attitude which pupils assume toward teachers who work with them in their organizations is alone worth the effort the teacher gives to the work.

It will be objected that it is not practical to encourage student organizations without destroying scholarship. None of us likes to be called visionary or impractical. Yet there is thruout all society a large amount of narrow-minded egotism parading itself under the title of practicality. If you don't want to be criticized, keep in the narrow rut of rigidly prescribed procedure. If your pupils dance and give entertainments there will be plenty of thoughtless persons to cry out that your school is doing nothing but having a good time. On the contrary, even the social organizations, rightly used, can be made to promote scholarship. Dr. Luther H. Gulick has commented on the beneficial effect that athletics, properly organized, have upon scholarship. Boys will work hard at their books to be allowed to play on a school team. They will also work hard to be allowed to join a fraternity or to take part in a play if a scholarship requirement is a necessary qualification.

There can be no question but that French clubs, German clubs, history clubs, etc., are conducive to a very fine and effective degree of scholarship. Indeed, they form a very good measure of teaching efficiency. If there is an active, well-organized history club in a school, depend upon it some one is teaching history in that school and doing it well.

The high schools of our country have had a wonderful growth. If

the indications of the times point truly, they are to have a far greater development in the future. There is no reason why much of the lasting charm that clings about the college should not exist in connection with these great secondary schools. Much of it does exist at Erasmus. On Alumni Day, which occurs each year just before the Christmas holidays, hundreds of graduates and former pupils come back to greet each other and their teachers in a sort of school jubilee. The scenes about the chapel and on the gymnasium floor are exactly what one would expect to see at a great college commencement.

If we are to educate these young people, using the word educate in its broadest, fullest meaning, the more entirely we can fill their field of vision with the school and its allied activities, the greater hold we shall have upon them for the accomplishment of our purpose.

Let pupils organize for special work. Let them organize for play. Organized play is more interesting and effective than unorganized play, just as organized work is more interesting and effective than unorganized work. There are but few things that a large body of individuals can do as a unit. We recognize this in society and so break into groups for play, for work, and for worship; nor are we less democratic because we do so. We shall not lose the democratic spirit in our schools so long as we insist upon equal opportunities for everyone to develop his own particular bent and so long as we cultivate a spirit of mutual respect and regard among our various activities.

The work of student organizations properly conducted gives vitality to a school. It has in it the spirit of progressive activity. It gives pupils opportunities for self-expression. It helps to connect the school days with later life, for the enlightenment of any community depends largely upon the virility and enterprise of its organizations, social, civic, educational, and religious. The school that fails to take advantage of the varied possibilities of student associations is neglecting one of the most forceful instrumentalities for effective education.

THE HIGH SCHOOL ITSELF

WILLIAM MC ANDREW, PRINCIPAL, WASHINGTON IRVING HIGH SCHOOL
NEW YORK CITY, N.Y.

Mr. Chairman, Ladies and Gentlemen:

I recall the sensation made by an analytical youngster in our high school who announced that his question naturally divided itself into three parts:

Firstly, what are we for;
Secondly, why are we for it; and
Thirdly, whether we are for it or not.

Firstly, what are we for? Six weeks ago, in order to get an up-to-date review, I addressed to the principals of high schools in the fifty largest

cities in the country inquiries to which I received forty-five replies, representing, it may be said, important public high schools of all parts of the country.

In answer to the question, "What is your idea of the proper purpose of a public high school?" there is a diversity of opinion. Six principals answer "To fit for college"; one adds, "This must be a secondary purpose."

Of other purposes the following are mentioned: Eighteen times is found "to fit for life or living." Under this head seven men mention "earning a living"; two, "the development of mind and hand"; three, "moral and ethical development"; three, "a training of as many powers as possible"; three call it "efficiency"; three specify "the power to think"; one includes health; one, culture; one, "power to work."

Six times occurs the purpose "to meet the demands of the community." Two of these demands are listed as "citizenship," three as "social efficiency," three times are given the purpose "to do for older children what the elementary schools do for the younger." One says, "The high school should give the best possible education." Two say the purpose should be "to offer the conventional studies." Five principals give no answer to the question, one saying that he has not time to tell what a high school is for, and another that he "leaves the reply to younger and wiser heads."

If, just as an assayer of ores tests a mine from samples, I may be permitted to draw conclusions from the replies of the forty-five gentlemen whose courtesy assisted me to prepare this paper, I would call attention to the large number of high-school principals who declare that the purpose of the public high school should be to prepare for life, or service, or efficiency.

Do you recall that the last time our Association met in this city, Dr. Eliot's presidential address was upon the thesis that the product of education should be an efficient person? He analyzed the educated man as to his abilities: to use his hands, to enjoy nature, to possess knowledge, to express himself, to imagine, to grow in character.

The year before, President Cook had analyzed "a clearly conceived individualism" as the purpose of schooling. The year previous, President Beardshear chose the personal product as his theme; he showed what the educated man should be as to head, heart, and hand. At the meeting at Asbury Park, President Maxwell chose "Education for Efficiency" as his subject. He showed the need of health, of deft hands, of accurate observation, of correct reasoning powers, clear comprehension, clean living, happy disposition, helpful desires, co-operation with others, knowledge of the world today. He expounded the new demand upon education to "fit for environment."

Observe, please, that our forty-five sample high-school principals include those who declare that the purpose of their schools should be to secure the efficient life. They include also those who think their busi-

ness should be merely to offer the conventional high-school studies. They embrace also those who think college preparation is purpose enough, and those who have not time nor inclination to formulate the object of a high school. This is a diversity of purpose, is it not? But if you examine the means employed you will be struck by the remarkable uniformity of the courses of study. All of these forty-five schools offer the conventional studies—Latin, ancient history, a uniform list of English classics, algebra, physics, French, and German. In these forty-five scattered schools the only work listed by their principals as considered by them distinctive is: current events (in one school), psychology (in one), public speaking (in two schools), astronomy and geology (in three). The uniformity of things taught is impressive. So is the diversity of results aimed at.

It is worth observing that all the presidential addresses to which I referred declare the purpose of education to be a personal product, the efficient man. It is notable that each address analyzes the efficient man into his virtues and says these should be the product of education, but it is most remarkable that we do not start with these virtues as our chief business and devise the best exercises we can invent or discover to produce the personal result we say we want. If you should say to me, "You are not so desirous of manhood as you are of algebra-manhood or Latin-manhood," I should have hard work to prove you wrong. If you should claim that the purpose of our high school is chiefly algebra and Latin and physics or portions thereof, I could not successfully contradict you.

Would it be fair to formulate the situations like this: A clearly conceived individualism, the perfect head, heart, and hand, clean living, patriotic citizenship, personal efficiency, etc., are the purposes of high-school education which we have in view when we write a paper on education, while the conventional course of study is our main consideration when we are in the schoolhouse?

When I hear myself and other high-school men telling the high-school teachers the different human efficiencies we are aiming at, all with the same course-of-study formula, it reminds me of Calkins' Compound, a mixture of rhubarb, turpentine, and some other things that a Michigan man dispensed over the counter of his drug store. If you wished relief from a cold, you got Calkins' Compound; if you felt feverish, he gave you Calkins' Compound. There could be nothing the matter with you that did not indicate Calkins' Compound. The druggist told his clerks, "I hope you understand that your main business is to sell 'em Calkins' Compound."

Here, too, are these forty-five high-school principals, and probably a great many hundreds more administering to many different sorts of children; some of these schoolmasters think the greatest service is to fit their youngsters for another school; some that the power to think is the chief desideratum, others that the strengthening of the moral nature is the main end

in view, but their methods and material are all the same. And it is not greatly different from what it was when our only purpose was to inform the young mind with facts. James Sullivan has been studying the curricula of the schools for young men in the fourteenth century. He is sure that any of those lads would feel quite at home in the course of study of the Brooklyn High School today.

Some years ago a certain Michigan man having amassed a large fortune set out to build himself a house. On the banks of the Hudson River he had visited an imposing castle that appealed to him. His architects reproduced it for him. The Hudson River pile stood on the side of a mountainous elevation surrounded by sharp crags, and by pointed cedars. Its towers, spires, and windows all responded to the suggestions of its surroundings. But the site our Michigan man chose for his mansion made with hands was a gently sloping meadow by the riverside amongst broad flat-topped trees. The new building was a disappointment. Its rooms and arrangement were not suited to the Michigan man's family. The whole thing was an expensive misfit. All the improvements attempted upon it seemed mere makeshifts. His project had not been based on any study of the location or of his own needs. Neither he nor his wide-awake western children could get satisfaction out of their antique imitation.

The majority of the opinions I quoted to you as to the purpose of high-school instruction seem modern and progressive. How about the ancient architecture of our house? What was it built for? Not far from this spot nearly three hundred years ago the first American secondary school arose, in close imitation of the English institutions for the preparation of the sons of English gentlemen to enter the college which would make of them members of the learned professions. In the course of time on the same model with the same purpose similar secondary schools sprang up in America.

Meantime on the broadest foundation with the most remarkable democracy of purpose common schools arose and flourished. At length the communities were rich enough to carry upward for children of fourteen years of age and over, provision for education at public expense. There were hundreds of private schools for the youth of that age. The nation adopted them and imitated them. That's all. The old purpose was to fit for college, to give a conventional brand of schooling to a select few. But the only equitable purpose of tax-supported education is to educate everybody in any way that the people who are paying the bills want.

Now if the old curriculum which was built for its narrow specific purpose is the best medium thru which to secure this broad democratic service, then we have a miracle.

There does not exist in educational literature any analysis of the purposes of education which applies the test of fitness to subjects of the high-school course and compares them to other known departments of knowledge

not in the high-school course. There is no treatise establishing the fact that the high school has the best scheme for accomplishing its purpose.

Why then do we find this remarkable agreement of subjects in the high schools?

Let our sample forty-five high-school men replying independently give the answer.

"Do the requirements of colleges determine the procedure in your high school?"

These are the answers:

Yes	15
Yes; and it is desirable, or proper, or a good thing	5
Yes, too much, or we're going to break away; yes, to an unwarrantable extent; yes, sorry to say	12
This makes: Who say "yes"	42
Who say "no"	3

On examining the courses of study of those who say "no" only one has a curriculum which differs at all from the curricula of some of the schools whose principals say that the colleges dominate their procedure.

Knowing, therefore, that the public high schools were originally copied from a college annex, we find that 93 per cent. of them are confessedly dominated by the colleges now.

But under their direction the colleges say we have not advanced; their problems are different from ours, they themselves "have no clear-cut notions of what education is," "vagueness of aim and lack of intellectual stamina" mark them.[1] The college has given us the fixed curriculum. The subject, not the student, is their center. This gives us the departmental system of teaching with instructors who have specialized upon a division of knowledge and know nothing of boyhood or manhood, which ought to be their chief concern. They teach the same limited portions of Latin they taught twenty-five years ago; their English classics are limited to an arbitrary list. This makes them dull and narrow companions. They travel in a rut. They are able to interest and hold only a few children as compared with the total number in the community.

The high school itself has now reached a place where indifference to its own problems, where reference of them to so unsuitable an authority as a college board, is inexcusable and base. It is dishonest for a high-school man to let the entire body of taxpayers support his school while he expends that money upon a course of study that engages only a small fraction of the children. It is dishonest for a high-school man to take the public funds and fail to study the public wants and needs. It is inhuman for a high-school man to see the majority of the children in his district unattracted to the high school while he makes no effort to try new methods and new subjects to get them in. We have assumed that our duty ended

[1] *Harvard Report*, 1905–6, p. 45; *Cornell Report*, 1906–7, p. 20; *Carnegie Foundation, Second Annual Report*, p. 28.

with the management of such a high-school system as we are pleased to maintain. If hundreds of young persons in our district never desire to take the course, no blame of ours. This is as if a minister would care nothing for the sinners in his parish. We have been calling our high-school education a privilege for such as were willing to take it. We have repeatedly driven out those whom we have rated as unfit, lazy, inattentive, poorly equipped, of low mentality, etc., etc., thru all the long list of our own miserable excuses for our failure to improve the people's children. Our high school itself as a secondary institution, its conventional rules and traditions have been of more importance than the intellectual and moral life of our community which hires us. We have driven away those who most need us. God knows a child of fourteen is not as well equipped for the service and enjoyment of life as we can equip him if we turn our minds and hearts toward him and not toward scholastic bigots whose conception of a high-school teacher is that of a door-tender to a college hall.

I am tired of the restrictions of an unproved curriculum. I am tired of being obliged to read the same books they read in South Hadley. My people want to talk about the big things of life, the latest books, the newest pictures, the extension of the suffrage, the conquest of the air, the abolition of war, the future of the republic.

My girls want to study the social amenities that make life more pleasant and friendship more enjoyable, they want to know more about music than they do about algebra, more of present-day Italy than of ancient Rome. They want to get in 1910 something they can use in 1911.

And I? I want to serve them. I don't care a picayune for the horrible nightmare they call the scansion of Latin verse, nor for the kind of useless pedant that sort of thing lets loose on hopeful expectant children. I want a company of wide-awake men and women concerned with sharpening the wits, perfecting the tastes, polishing the graces, improving the health, and strengthening the morals of the children of my district. I want our school to be free to pick from the whole field of learning and practice whatever kind of exercise these teachers can use to bring the children farther along from what they are to what they ought to be. Can't we have this absurd dogma that education runs in courses broken up? Instead of the conception of a high school as a place where courses of study are doled out, can't we run one on the theory that a high school is a resort of young persons of fourteen and upward who are to be assisted one year, two years, three, four, five, or six years to grow into the best kind of man or woman we can conceive?

What is the reason a high-school principal cannot require his teachers to let expertness in physics or chemistry give way to expertness in manhood and womanhood? Instead of dividing high-school procedure into Latin, Greek, science, and history, why could I not divide it for actual classroom work as presidents of this Association divide it for public ad-

dresses into health, muscular control, manual skill, morals, mental powers, observation, judgment, etc., oral expression, written expression, artistic expression, taste, courage, patriotism?

In other words, why may we not make personal characteristics the direct purpose of high-school instruction instead of having them made prominent only in conventions?

Why must we confine education for efficiency to the narrow means contained in even the broadest curriculum known in any American high school today?

Is it because the subjects in the curriculum are as effective for developing the boy and girl to health, morals, courage, taste, and patriotism as a teacher would be who was required to devise and give exercises directed toward health, morals, courage, taste, and patriotism?

No one has ever proved that the subjects in the high-school curriculum are the best selections for the education of children.

Why may we not try any decent kind of exercise we can find anywhere: biography, current history, Latin literature that moves the heart, Greek prose and poetry that isn't befuddled with a lot of microscopic grammar, orchestra playing, physics that opens the wonder and delight of science, geometry that lays hold on life and makes the mind a useful instrument in other problems than those of points and lines, conversation, management of schoolhouse and grounds, musical appreciation, acting, abstracting and cataloging books, caring for babies, serving school luncheons, magazine and novel reading, newspaper reporting, dairy-keeping, gardening, spending money, use of wood- and iron-working tools, elements of success in life, wage-earning processes and their financial rewards, making and care of clothes, human conduct, politics, receptions and festivals, beautification of cities, anything that any inventive teacher can convince a principal is educative? Why, I ask, may we not try any avenue until perchance we have some point of sympathy with the unschooled boy or girl whom now we abandon untrained by any regular application because our conventional assortment of keys does not unlock the door to his powers?

Are we afraid of experiment? The path of medicine, surgery, engineering, and business is strewn with discarded practices. Must we be the only ones to hang on to our "eternal verities"? Our present uniformity is scandalous. It means that either we are too lazy or too unintelligent to devise any solution of the problems of the day, but must get everything by imitation. Must the thousands employed in high-school faculties go thru life without even attempting to turn their minds toward the discovery of new paths of progress? To every engineer the world cries "invent," to every physician "discover"; to every high-school teacher custom and convention whisper, "Conform or get out"; and so we see our most virile and alert deserting us by hundreds.

Around us hover problems clamoring for answer; we see crime increas-

ing, wedded loyalty renounced without a tear, literature and drama festering with immorality, city governments weltering in corruption, business in the vise-like grip of monopoly and special privilege, while we, in whose hands are the citizens to be, consider the character of these coming men and women as a possible by-product or neglect it altogether.

What would I propose? Exactly what any intelligent father would do for his children. Set out to find the best that can be done for them, for *them*, not for the course of study.

"Ho, schoolmaster, here's a boy. Help him grow to be a man." If you can do it with algebra, hurrah for you, but don't feel tied to Calkins' Compound. If you can't improve him by conventional studies, find out what you can reach him with and add them to your list of specifics. That's what you are for, not for uniformity or system or the conservation of tradition, but for the children of fourteen years of age and upward, all of them, good and bad, who respect you or who laugh at you, who mind you or who disobey. For you are a citizen of no mean city bounded by a row of college elms, but the guardian of the future of a band of living souls.

THE OPPORTUNITIES OF THE MODERN HIGH SCHOOL

C. P. CARY, SUPERINTENDENT OF PUBLIC INSTRUCTION, MADISON, WIS.

The opportunity to address the high-school section of the National Education Association is a privilege and an honor that I keenly appreciate. From the standpoint of one whose interests and work are coextensive with the entire field of public education, permit me to say, without flattery or exaggeration, that I believe the American high school is destined to be our greatest democratic educational institution. It is even now scarcely beyond its infancy. The outlook for the future puts to the test the imagination of the most gifted. The college and university are splendid democratic institutions; nevertheless, an attendance of four years at college is expensive both as to time and money and is steadily growing more costly. Opportunities for the student to earn his way thru college are decreasing, at least relatively. Unless there are great and unforeseen economic changes college education will soon be largely a luxury for the well-to-do and the rich. Elementary education brings all classes together, it is true, but only for the rudiments of an education and at a period when the pupils are children, or but little beyond. The high school, however, is a local institution where rich and poor, high and low, mingle in a homogeneous group. All are measured by the same standard of excellence, and that standard is one of merit and not of circumstances or external conditions. The education received in the high school will soon be a fair substitute for college training. It is the people's college.

But recently I spent a half-day in a high school that cost, equipment,

building, and grounds together, a million dollars. It was sanitary enough for a sanitarium of the highest grade. The air that was furnished the pupils was measured as to quantity, was washed by forcing it thru water, and was graduated as to moisture. The equipment for science work was such as would have been a source of pride to any college. So far as buildings and equipment go, it is marvelous, but tomorrow it will be surpassed. The modern high school at its best is a splendid institution of learning and it is adapted to the needs of the masses. It deals with pupils at the age when they are forming the ideals, acquiring the intellectual habits and the physical co-ordinations that will be theirs thru life. Nowhere else, perhaps, do we need teachers with such infinite tact, such genuine enthusiasm, such big-heartedness, such a grip upon real life, and such optimism for the future. This for the reason that in such a school the students' lives and characters are taking shape as never before and never after. Its course of study is almost indefinitely extensible. It may readily be extended downward two years, or upward two years. Truly, the high school has a great opportunity and a great future—unless the high-school men and women sell their birthright.

There are, however, hindrances of a grave and serious kind to the proper development of the high school. The one that impresses itself upon me most constantly and most forcefully is the unnecessary and inexcusable one of college domination. The colleges with their narrow and false ideals of culture, their unwillingness to recognize the educational value of subjects that possess direct utility, their insistence upon college and university methods in secondary education, their insistence that graduates of their own, particularly those who have specialized in a high degree and whose interests are in the subjects rather than in the students they teach, shall fill the teaching positions, have molded high-school education, so far as they were able, into a thing of narrowness instead of breadth, into a thing of relative uselessness instead of large usefulness, and have thus dominated to a degree that has become in many states of the Union an intolerable impertinence.

The first requisite for the proper development of the high schools of the country is adequate freedom. High-school men of far-sightedness and determination must fight this battle to a finish. To do less than this is, in my opinion, inexcusable. The colleges of the country have no more right to dominate the high schools than the high schools have to dominate the colleges. It is the business of the high school to study the deepest and most genuine needs of its pupils and to furnish the kind of instruction and training necessary to meet these needs in the most direct and efficient manner possible. The high-school men and women are on the ground, they know what is needed. They may get excellent help and suggestions from the colleges and universities, but those who are directly responsible for the management of the high schools should accept or reject such sug-

gestions in a perfectly free and independent manner. Anything less than this is, to speak frankly, beneath their dignity. Many high schools in their desperation are drawing a line of cleavage between those who are fitting for college and those who are not. They are establishing preparatory academies within the high school itself. This is foreign to the spirit of the high school. It is undemocratic. It is wasteful of time and energy, and, furthermore, it is entirely unnecessary. That the course of study so pursued is ordinarily not the best adapted to the pupils who are forced to take the course under penalty of not getting into college would, I believe, be the consensus of judgment of the great majority of those who have made a comprehensive and thoro study of adolescent life, its interests, capacities, and needs.

A second difficulty the high school experiences is the selection of suitable teachers. The difficulty is to find in sufficient abundance men and women possessed of the splendid natural qualifications necessary for a high-school teacher, together with broad and generous equipment in education and training, for the salaries that even the best high schools are able to pay. Many of our best high-school teachers teach for the love of the work while recognizing the inadequacy of the compensation. The high school is in danger, on the one hand, of securing teachers with insufficient preparation, or, on the other, of securing men and women who have specialized to such a degree that they have lost interest in everything but the subject, and their minds are out of focus with reference to the subject itself. They look at their subject thru a microscope and endeavor to get their pupils to see it thru a microscope, when by looking with the naked eye they might perceive the thing in all the beauty and wealth of relationships to other things and at the same time in sufficient detail to satisfy the needs of the young student. We can well afford to dispense with a high degree of specialization if by so doing we can secure teachers thru whom the great currents of humanity flow unimpeded and who are splendid exponents of the finest things in modern civilization. The most sagacious high-school principals today are seeking for teachers in whom personality is strong and sane and balanced and who have warm, live, human interests and can bring to the school some element of strength in addition to that which is their daily stint of instruction. It may be that the teacher has athletic interests and ability, or musical interests and ability, or the capacity to organize the students into societies that will aid in training for citizenship. Many high-school principals are today seeking teachers who have had experience in elementary schools for the reason that they often seem to adapt themselves to the needs of high-school pupils better than those who come down from the mountain heights of the seminary and university research.

A third difficulty is in the pupils, or perhaps one should say in the spirit of the times. It is manifest in listlessness, inattention, low ideals

as to thoroness and accuracy, lack of intellectual snap and verve. I recently sat thru a class exercise in a high school that is famous thruout the United States, and listened to the give-and-take of a recitation conducted by a man of mature years and fine teaching ability. He was dealing with a subject that was of intense interest to me and of such a nature that I can scarcely understand how young people could have failed to be interested. Yet probably at no time was half the class attending with more than one ear, and several members were chewing gum and occasionally communicating with those near them about matters that did not pertain to the lesson. When pupils were called upon they made a stab at the answer. Their replies were usually incorrect and yet I think it caused them little, if any, embarrassment. Humiliation at failure rarely seems to be the attitude of the high-school student. He seems to take failure as a matter of course. Indeed, I am not sure but that the college student's attitude of distinct disapproval of anything approaching earnestness or enthusiasm in study on the part of any members of the class has reached and permeated the majority of our high schools. Such unpleasant epithets as grind, shark, and the like are hurled at the earnest high-school student as they are at the earnest college student; but all this is deeper seated than the school itself. As a nation we are a slap-dash, hit-or-miss people as compared, for instance, with the Germans. As a people we lack capacity for taking pains and we have an amazing self-complacency. The typical American child is quick, keen, alert, but shallow, lacking in self-control and thoroness. He accomplishes much after a fashion, but what he does is slipshod and lacks precision. He *almost* knows a lot of valuable things, but falls short at the critical point. There is a supplementary cause for this state of affairs in connection with the high school, and that is that the colleges have demanded so much of the high school that the best it can do is to give a smattering—the shadow of knowledge, but not its substance. The high school has also, because of its relation to the colleges, come to ape, to its detriment, many college ways. Perhaps the worst example is that of secret societies within the high school. The high school should by all means be made thoroly democratic. Those in authority should effectively insist on simplicity of dress, should root out all clannishness, and the clique spirit, and should train all to love justice, equality, and fair play. The ends of the school are social ends. The school is intended to fit the individual to perform his part in the social whole.

The moral aspect of the high school presents difficulties of a profound and serious nature. The high school should distinctly be an instrument of social progress, but this it cannot be unless it learns the art of developing ideals that have a controlling force in the lives of its students. At present the school, to a large degree, lacks motivation. The school life is not connected in the life of the pupil, in any vital sense, with what has been or what is to be in his experience. The work thus suffers from isolation, whereas it should

use every atom of valuable experience that the child has undergone and it should be related intimately to the life the pupil is to live in society. In this way only can the high school be made thoroly moral and truly valuable.

The needs of the high school are many if it is to reach the full measure of its greatness. As before remarked, it must have freedom as the essential condition of growth. It will then, I believe, expand in the same general way that the university has expanded, guided and limited only by the needs and the financial ability of the community supporting it. There is no reason to suppose that ultimately every vitally important industry of the community will not be represented, in its fundamentals, at least, in the high school, and I trust the time will come when every student will by compulsion, if not by choice, carry two lines of work, one academic, the other industrial. The industrial phase need not occupy more than a quarter of the time, but it should be a part of the curriculum of every student for the sake of its physical effect, for the sake of its mental effect, and for the sake of its moral or social effect. The school must do its share, and that a large share, in teaching the rising generation *to work* and to take pride in work that is well done. No better opportunities can be found than in this connection, to teach lessons of economy as against extravagance, the dignity of labor as against the parasitism of idleness. A heavy responsibility rests upon the high school, and the burden will grow heavier, as time goes on, for the physical welfare of its pupils. Industrial training, gymnastics, athletics, play, are already banking large in the minds of those who view their duties toward the school most intelligently. Sanitation and hygiene in all their aspects are rapidly becoming matters of the greatest solicitation and for the most expert advice. That the needs are now great, we have a practical illustration in the fact that a third or more of the girls in one of our great coeducational universities have serious spinal curvature for which, doubtless, the lower schools are largely responsible. In the same university it has been shown that boys that come from the farm are larger and stronger than the boys who have grown up even in small cities and villages. There is probably good authority for saying that at least 25 per cent. of the students who drop out of high school do so because of ill health or physical defects. Biology tells us that the vital organs have in the course of evolution developed in response to the needs of the muscular system thru which the animal acted upon its environment, both offensively and defensively. If this is the natural history of the vital organs of the human body, as it doubtless is, we can readily understand that the disuse of the muscular system which is coming about in modern civilization will, if permitted to do so, result in a reverse process of degeneration and atrophy of the vital organs. We must promptly set about it to preserve for the human race good physique, good digestion, and sound health. The vital organs and nervous system must be so co-ordinated that the outcome is grace, the poetry of motion.

In the future, as never before, the high school must aid pupils in finding out what they are good for. To fail to do this thru ignorance or negligence will be to fall short of a vital duty to the individual and to society. Thus far the school has largely tried to answer the question whether the child is adapted to the academic and professional life. This will always be an important question, but henceforth it will be only one of many. My time is too limited to do more than touch upon a few of the more important phases of the high-school question. I wish to make a final suggestion. An unparalleled opportunity lies immediately before you. If you are to meet this situation in a large and comprehensive way you must, I believe, take counsel, not of the colleges and universities, but of those who broadly comprehend the general welfare of society. I advocate no narrow, cramping, utilitarian scheme, but one that appeals to all that is found best and most worthy in each and every child that passes within the portals of the high school. The teachers who meet him there must be free to give him that which will best develop him; and when this is done and he wants to go to college he must be granted the privilege. The best and wisest course of study for him in the high school is the best preparation for college. What this course is the high-school faculty and the pupil should know if anybody knows. The college knows the child only as an abstraction and cannot possibly prescribe for him except on an absent-treatment basis.

DISCUSSION

Harry P. Swett, principal of high school, Franklin, N.H.—Our educational system must be regarded as a unit. In endeavoring to strengthen the position of the high school, we should not allow it to be alienated from any part of the system whether above or below. The high school is asserting itself thruout the country, but, at the same time, the colleges are looking to the high schools and are asking the teachers in them what changes they desire as to college-entrance requirements. The answer is too often indefinite and uncertain. If we teachers will have a definite reply, the colleges will certainly heed it.

Dr. Harris has said that much cannot be expected from a study until its subject-matter has been reduced to pedagogic form. We cannot hope to gain acceptance for any subject before it has attained such form.

I have this one suggestion only: if the high-school teachers will introduce studies and systematize them so that they can be defended in the face of any opposition, and if the claims of these studies are then clearly presented to the colleges, the latter will gladly accept them in their entrance requirements. Of this there is no doubt.

PRELIMINARY REPORT OF THE COMMITTEE ON COSMOPOLITAN HIGH SCHOOL

SPENCER R. SMITH, PRINCIPAL, WENDELL PHILLIPS HIGH SCHOOL
CHICAGO, ILL., CHAIRMAN

The commission appointed in concurrence with the resolution adopted by the Secondary Education Department at the Cleveland meeting of the National Education Association begs to submit herewith a preliminary report.

The functions of the commission are defined by the resolution, as follows:

Resolved, That a commission of seven be named by the Department of Secondary Education to make a study of the conditions surrounding our city high schools with a view to the development of a rational system of constants, the reorganization of the electives on the basis of study value, and the preparation of a curriculum that may be considered basal in the organization of a system of study for the cosmopolitan high school.

Further, That this commission co-operate with a similar committee from the Department of Technical Education and with such other bodies as may be interested in the work of secondary schools.

And, further, That this commission be herewith empowered to invite the co-operation of other organizations thru invitation to appoint committees of conference.

It is the aim of the commission to make a thoro study of the present status of conditions environing our cosmopolitan high schools, and, when these have been properly collated, to base recommendations thereon with the view to developing a curriculum in which the proper emphasis will be placed upon the value of the respective subjects taught and their proper place in a given course of study, several such courses being organized, so that the whole curriculum may be so varied and flexible as to meet the social and economic needs of the constituents of the schools.

The chairman of the commission sent to the several members a proposed program of study for a cosmopolitan high-school curriculum, asking for emendations. Many valuable suggestions have been received. These suggestions have been incorporated in the program of study herewith submitted. Later the work will be divided among the membership, a questionnaire prepared to be sent to the several principals for answers, conferences arranged with bodies interested in similar economic and social questions, and, in short, all the machinery set in action necessary to complete in a satisfactory manner the work undertaken.

You are asked to consider briefly an outline of the plan of the commission with such suggestions as it may seem wise to offer at this time in furtherance of such plan.

The high school is a social institution. As such the high school influences and is influenced by other social institutions. It is a vital factor in society. It has been handicapped by tradition and is in danger of foreign invasion. The problem is ours. How shall we solve it? This study is an attempt at a solution and its success will depend much upon the enthusiastic support of high-school principals and teachers thruout the country.

Dr. Dewey of Columbia University, Dean Davenport of the University of Illinois, Professor Bolton of the University of Iowa, and others have pronounced for the wider high school, against the divorcement of the technical or commercial high school from the old academic high school, for equal rights for all the youth of our land to all the facilities secondary education is willing to offer.

To this end it is intended to study:

I. The plant and its maintenance.
   a) Comparative cost of building high schools: academic, technical and manual-training, commercial, combined.
   b) Comparative cost of equipment of high schools: academic, technical and manual-training, commercial, combined.
   c) Comparative cost of repair of high schools: academic, technical and manual-training, commercial, combined.
   d) Comparative cost of teachers in high schools: academic, technical and manual-training, commercial, combined.

II. Organization.
   a) Teachers: how appointed, sex, salary, and social standing, treatment of the inefficient.
   b) Pupils (thruout this report the number by sex is desired):
      1. Number in the city between fourteen and twenty-one years of age; number of these in school, public or private, by grades and age; number in private and public institutions, in hospitals, or out of school on account of ill health; number at work in factory, store, office, at home. Reason for working, training therefor, remuneration; attendance upon school out of working hours.
      2. Comparison of enrollment in high school by years with theoretical number that ought to attend, from 1900 to 1910. The same study may be made of the seventh and the eighth grades as a preparation for later comparison.
      3. Comparison of number graduated from the eighth grade and those that entered the ninth grade, 1900 to 1910. Same for graduation from the seventh to the eighth grade. Comparison of graduates with non-graduates as above (for a given number of years).
         a) How many pupils entered your school in September, 1900, 1901, 1902, 1903, 1904, 1905, 1906, 1907, 1908, 1909?
         b) How many pupils graduated in 1905, 1906, 1907, 1908, 1909, 1910? How many pupils in the second and third year respectively in June, 1910?
         c) Causes of habitual absence:
            1) Physical condition.
            2) Economic condition.
            3) Distance from school.
            4) Scholarship.
            5) Age.
            6) Grade.
         d) Members leaving school or discharged without graduation during the ten years above indicated.
         e) Relation of elimination of pupils to:
            1) Regular attendance.
            2) Need to go to work.
            3) Change of schools.
            4) Overage.
   c) The pupil and the curriculum.
      1. Number pursuing different high-school subjects offered in first, second, third, and fourth years, for the year ending June, 1910.
      2. Number gaining certain standings in such subjects. 100–90; 89–75; 74–70; 69–50; 49–0. Indicate by semesters—first and second for same year.
      3. Passing-mark of school reporting.
      4. Percentage of failure in subjects pursued.
      5. Method of promotion. Number of promotions February, 1910. Relation of promotion to membership (not enrollment) June, 1910.

6. Intensity of study—number pursuing complete courses in Latin, mathematics, history, commerce, manual training, household arts, June, 1910. In report indicate number of years offered.
7. Habit of failure. What proportion of those failing in subjects as indicated above has taken the subject a second time or has failed in other subjects? (Considering failures it is noted that "those who are making reasonable progress in a study but discontinue it for good and sufficient reasons—and those who drop out of school for reasons other than scholarship should not be reckoned as failures." The latter are provided for under elimination.)
8. What means do you employ to keep your pupils in school?

III. Relation of parent to pupil: effect on pupil and curriculum.
   a) Nationality of the parents of the pupils in the high schools compared with the nationality of those of the same age not in the high schools. To be gotten from reports of Immigration Bureau, school census, etc.
   b) Occupations of the parents of the pupils in high school.

IV. What means do you employ by way of medical inspection to prevent elimination of pupils or to promote survival?

V. High school and college.
   a) Number prepared for college, higher, technical, and normal schools, 1900–1910.
   b) Related negatively is the suggestion that a study be made of the activities pursued by high-school graduates who do not continue their studies formally beyond the high-school. May it not be possible for several principals to gather information on this subject?
   c) College influence.
      1. To what degree is the course of study based on what colleges want?
      2. To what degree is it based on consideration of capacities and needs of children?
      3. To what degree is college domination evil? To what degree good?
      4. To this end a comparative study of the changes in college requirement and the high-school curriculum is suggested.
   d) Examination system.
   e) Certificate system.

VI. High-school control: state, county, city—standardization.

VII. Self-directed work, social and cultural. A mode of development of responsibility.

VIII. Study values.
   a) Constants, basis of selection.
   b) Elective subjects, or
   c) Elective groups so arranged as to meet the demands of environment and choice.

This study naturally brings one to a consideration of the curriculum. When the above data have been collected, there follows the task of developing a curriculum for these schools that shall meet the demands of the varied constituency of the city high school. It is the purpose of the commission to send a questionnaire based on this report to all cities of a size to warrant two high schools, the inference being that in all other cities the cosmopolitan high-school curriculum will be found, or at least that the conditions found in our large cities will not be found therein and that therefore the local demand will be more apt to be met.

In addition to the work outlined above it is the hope of the commission to fulfill the further instructions of the resolution by co-operation with a

similar committee from the Department of Technical Education and with all other bodies interested either socially or economically in the work of the secondary schools. From the Immigration Bureau, the National Child Labor Committee, the Bureau of Labor, the Bureau of Education, and the Bureau of Municipal Research of New York we shall seek advice and information.

In all we shall bear in mind what Mr. McAndrew of the commission wrote to the chairman in February:

1. The public high school is the natural resort of children thirteen and fourteen years of age and upward.

2. Its duty is to give the best kind of service to those children.

3. What the nature of this service is may be safely left to their parents as reported by public-education committees, clubs, etc., presenting suggestions to boards of education.

4. The persons employed as teachers and principals of high schools erred in preferring allegiance to a conventional line of procedure established by college examination boards and others but only secondarily planned for service to the children of the community.

In behalf of the commission,

Respectfully submitted,

SPENCER R. SMITH, *Chairman*

THE PRACTICAL ASPECTS OF SCIENCE IN SECONDARY EDUCATION

I. THE PEDAGOGICAL VIEWPOINT

WILLIAM R. HART, PROFESSOR OF AGRICULTURAL EDUCATION, MASSACHUSETTS AGRICULTURAL COLLEGE, AMHERST, MASS.

Instruction in scientific knowledge has two motives. These motives are quite distinct and can be rather clearly defined. One of these motives is commonly spoken of as practical or applied. This motive for the study of science is clearly indicated in the statement of the topic of this program. The statement of the topic carries a pretty clear implication also that the study of science has a non-practical aspect. That is to say, we study science with reference to the applications we intend to make of the knowledge, or we study it for the sake of the knowledge as a possession and for its own sake with no intention of applying the knowledge in our specific vocation. Each of these aspects of science study has its pedagogical viewpoint.

Most teachers of science during the past thirty or forty years have been so absorbed in the fascinating hunt for facts, and the proofs for other facts, that they were hardly aware that lying alongside of the science of facts is the science of teaching those facts. When one of these devotees has occasionally risen from his microscope or put aside his test tubes long enough to make an utterance on the subject of method, his creed is very brief and to himself perfectly clear. Reduced to untechnical terms it says, "Apply the

sense organs to the facts and let the mind do the rest." This is a comfortable doctrine. It puts the responsibility upon the learner, where the teacher of "science for science's sake" thinks it belongs. This makes it easy of acceptance. The more or less unconscious acceptance of this simple creed accounts in large measure for the collapse of "object of teaching" a generation ago, for the drooping of nature study today, and for the waning interest in secondary science in recent years. The easy-going doctrine that if the facts are once lodged in the mind, the mind will take care of them is a fruitful source of trouble; more so in science teaching than in almost any other field. The doctrine assumes that the mind is always in a receptive mood for this or that class of facts which the teacher finds it convenient to present, or that come next in the textbook arrangement of material. The mere incident that one fact is related to another is no guaranty that the mind will make the proper use of the one merely because it may be in possession of the other. Nearly all that has been said on the subject of apperception has been a sort of striving to show that the incidental connection of facts is not the true warrant for their being presented in sequence, or even in conjunction. The real warrant for presenting to the mind of the learner a group of facts lies in the mind itself. The systematized text in a specialized science must, for purely practical reasons, disregard the laws of acquisition and arrange the matter logically. The highly trained specialist unconsciously thinks of his field of facts as being logically arranged. He sees the field from the standpoint of achievement and possession rather than from the standpoint of acquisition. In many cases, perhaps in most, this mental attitude renders him an indifferent, if not a poor, teacher of those who are still in the earlier stages of acquisition. His sense of the use or application of the knowledge has been in large measure submerged in his vision of laws, principles, and relationships. Not a few of us have felt a surge of impatience at the oft-recurring question, "What is the use of it?" No doubt many of us have tried to justify our procedure on other than merely useful grounds, or have resorted to the argument that the principles and laws are the only really useful things about a subject. This is a valid statement as among ourselves, but it is unfair to the immature mind, because it silences rather than satisfies the inquiry.

This brings us to the threshold of the problem of the order of presentation, whether it shall be logical or psychological; whether it shall be systematic or, as some would say, haphazard; whether it shall be thru principles to their application or thru applications and concrete cases to principles.

The general arrangement of the program for this session raises the whole question of correlation. Correlation has been discussed hitherto largely by the administrators of educational machinery and professional educationists. It seems a good omen that the problem of correlation is coming to be dealt with by those interested in the teaching of science as well as by those more especially interested in the science and art of teaching.

The grand divisions of the field of science as well as the increasing importance of the chief subdivisions tend more and more to make correlation a persistent problem for pedagogy. The more especially is this true because of the growth in magnitude of some of the aspects of a number of the subdivisions under such names as economic entomology, soil physics, domestic science, and the like.

Such a title as economical entomology, by the way, prompts the inquiry as to whether or not the solution of the vexed problem of correlation may not lie in the domain of applied science rather than in the field of pure pedagogy or of pure science. If it should turn out so, then correlation is more a problem for sociology than for either pedagogy or science. The mere proposal raises a strong presumption that no complete solution of correlation is attainable without considering the testimony and claims of sociology; without pressing the inquiry too far, some considerations seem pertinent in this connection. These may be presented in the form of questions.

Is it unfair to say that most of the attempts looking toward the correlation of subjects have sought their basis in relations which exist in the subjects themselves? Have we not tried to tie up history with geography because of the mere incident that an event in time had to happen somewhere in space? Have we not tried to correlate nature work and reading simply because someone had written something interesting about natural phenomena? All schemes for the correlation of studies will be more or less futile which find their only justification in the fact that the subjects correlated occasionally occupy the same or contiguous territory. This is true whether the correlation is attempted by the educationist or by the scientist. Such a process instead of being a vital correlation is merely putting together in an artificial way parts of subjects which had been artificially pulled asunder in the process of building up groups of knowledge. To merge the study of history with civics in the name of correlation is a barren subterfuge. All important civic ideas are merely institutionalized facts of history. They have little or no meaning outside of their historical setting and atmosphere.

Let us look a little farther into the pedagogical significance of economic or applied entomology. The name is highly suggestive. Here we have an aspect of insect life, differentiated from the field of zoölogy. As a science, entomology concerned only with problems peculiar to itself is capable of indefinite development. But as soon as you designate it "economic," a number of new suggestions are forced upon us.

Economic entomology is a term which relates the science to man in his organized fellowships. It can do this only on account of man's dependence upon the plant world for sustenance, shelter, and clothing, and of his efforts to protect himself from disease.

The whole cyclopedia of facts about the life-histories of all the insects in the world, with all their habits and modes of existence, is of little moment either for mental discipline or humanizing culture, if it were not for the fact

that at certain points the circle of knowledge about insects becomes involved in man's welfare, if not in his very existence. Botany, like entomology, when concerned with problems peculiar to itself is capable of an indefinite development. Thus may these two important divisions of biology proceed in the accumulation of facts and the demonstration of principles in constantly divergent lines, till human organization becomes involved. When entomology becomes involved in human welfare it is economic. From the standpoint of parasites it is plant pathology and human medicine. From the standpoint of cross fertilization it is plant physiology. How intimate is the entanglement is due to the human interest injected into the matter.

Is it not possible that economic entomology is a common meeting-ground where the entomologist, the botanist, and the horticulturist may join hands? Is not soil physics a common ground for the geologist, the physicist, and the chemist? Is not what has come to be known as agricultural chemistry a good meeting-place for the chemist and the biologist? Is it not in these three fields and others of like nature where the men of many sciences must strike hands with each other and with the common man who needs the knowledge as a means of lightening the burden of his daily tasks? Is it not possible that herein is both the justification and solution for correlation —the application of knowledge to the supplying of human needs?

A not too dogmatic pedagogy will recognize in this a basis for interest which is social rather than individual in its scope—an interest that has more of the elements of permanent vitality and less of transitory curiosity. It is a sort of interest that grows out of man's relation to his fellow-men as well as his relation to the world of things. Interest from this viewpoint is sociological because of the use the individual may make of the knowledge as a serviceable unit in society.

Interest is a powerful stimulus to learning. It should be created when it seems to be wanting. It should be stimulated wherever found. It implies a much more serious attitude than curiosity. Curiosity may strike the attention momentarily, but interest absorbs the entire mind. Nature is full of interesting things. Some of them excite our curiosity and fill us with astonishment. Others both stimulate interest within us and possess an abiding interest for us.

It is a more or less curious fact that insects have six legs; that some have two pairs of wings; that the wings of some are shaped and colored for what we have called protection; that some pass thru the winged period of their existence without nourishment; that some are dependent upon a watery environment for part of the life-cycle and upon atmospheric environment for the remainder; that some lead a hermit life, while others live in organized colonies, and still others appear to have no fixed habitation; that in some cases quite elaborate preparations are made for the deposit of eggs, in other cases eggs are deposited only in places best adapted for the nourishment of

the young, and that still others deposit their eggs with no apparent reference to the continuation of the species; that the more elaborate the preparation for the deposit of eggs the lower is the probable death-rate among the progeny; that the young of some are nurtured and protected with a sort of family solicitude, while the young of others are left to shift for themselves and fulfill the function of their part of the life-cycle more by a lucky chance than by a prearranged design.

Now, however curious and however interesting to the advanced student in his search for the laws of life, and however vast the body of knowledge that has been accumulated about insects under the foregoing heads, if it were all swept away in the night it might be missed from the sum-total of human knowledge, but human and social interests would scarcely feel the loss. If, however, the loss of such knowledge as is indicated in the foregoing paragraph should carry with it the knowledge of such facts as that some insects feed by sucking the juice from the body of a plant, that others feed by eating the tissue, that some feed only from the under side of leaves, that others deposit their eggs about the stem in such a way as to become incased in the growing fruit, that some do their feeding in the larval stage while others feed during both the larval and the winged stage, that the feeding activities of some are the sole means of preserving certain species of plant life, and of giving greater vitality to other plants by cross fertilization —if a knowledge of these facts that relate to the food and feeding-habits of insect life were lost, civilized man would soon be driven from the cultivated field as a source of his own sustenance. Thus does a group of facts, in a unique way, relate the study of a subdivision of zoölogy with sociology.

The method of feeding on the part of insects has controlled in large measure the science of man's warfare with his insect enemies. Insecticides are chemical in their make-up. In the mode of applying them the process is physical. In their action they are physiological. In their aim and result they are economic and therefore sociological. Man's fight with insect life makes entomology a factor in economics. Wanting in this, it will puzzle the best of entomologists to tell what the vast store of insect lore is worth. Wanting in this sociological or economic element, it will try him sorely to justify its study, except by those interested in the study of life in the abstract rather than in human life. Having this economic factor the study justifies itself without the aid of the nature-study enthusiast, or the scientific specialist.

The application of such knowledge is so varied that it appeals to interests which are almost universal. To the tiller of the soil economic entomology renders agriculture scientific and more profitable. To the town improvement league it becomes a willing handmaid in the art of beautifying streets and parks. To the grower of fruits, a knowledge of this branch of entomology is as essential as a knowledge of the plants or trees he cultivates.

Without further elaboration, I wish to raise the question right here, as to

the place and method of beginning the study of such a subject as entomology. Should it proceed from the economic to the scientific aspect or from the scientific to the economic? Should it start from the interest society has in the application of the knowledge, or from the vantage ground of the scientist enthusiastic for systematized knowledge? I wish to raise this question in the name both of good pedagogy and of good science. I wish also to raise it, not merely with reference to entomology, but with reference to all branches of science that have such a direct bearing on the vocational aspect of a people's life.

We frequently hear the work of a chemist like Liebig extolled on account of the light his work has thrown upon the processes of scientific agriculture. In the next breath we hear expressions of regret or astonishment at the fact that a boy in the high school or college doesn't burn with enthusiasm over his set problems in chemistry. We read of some achievement of Edison or Marconi and stupidly wonder why students in physics lack interest in the subject. We learn of the victory of Pasteur or Koch and wonder why biology isn't more popular than Latin. We have been so intent upon the teaching of science that we have about lost the art of teaching the mind.

Chemistry as a pure science doesn't need to bother with fertilizers. Physics as a science doesn't need to concern itself with sandy or clay soils. Biology as a science can get along without giving much attention to sterilized milk. But fertilizers, soils, and milk are socialized forms of matter. They are intimately related to human welfare. It is therefore legitimate to look to the science of chemistry for whatever light it may throw upon the source, composition, and character of fertilizers, to the science of physics for aid in the solution of problems for the use of soils, and to the science of biology for whatever aid it may give in securing pure milk. This viewpoint makes fertilizers, soils, and milk the motive for going to chemistry, physics, and biology for solutions to the problems raised in connection with these several substances. Stated in another way, this makes servants of the sciences whose most important duty is the answering of questions.

Science can never answer questions which are not clearly formulated in the mind of the learner. There can be no question framed which does not grow out of an experience of a difficulty, or of a clearly conceived situation. When a student has to deal with a difficulty which can be resolved by the application of some scientific principle, he is then in the only true state of mind for a study of this or that science which will throw light upon the difficulty. In this way the search for principles has a motive which is immediate and practical. In this way the truths of a science are vitalized as soon as learned because they fit a situation rather than a scheme of classification.

The formal standardized performances required in the name of experiments in chemistry and physics are supposed to introduce the young student to the elementary principles of these sciences. Is he or is he not better

educated after these have been done than he would be if he had been confronted with even half as many real situations involving scientific truths for their solution even tho he may have only a one-sided view of the few principles, and only a partial solution of his difficulty?

When the foregoing is reduced to its lowest terms it may be stated in the old formula—the concrete before the abstract. But the concrete here contended for is not merely the objective or sensible. It is the economic, the sociological; in other words, the vocational. It is my belief that modifications of secondary science along these lines will result in a wider dissemination of scientific knowledge, and consequently an increasing number who will enter with zeal the higher realms of scientific learning.

II. THE SCIENTIFIC VIEWPOINT

W. J. V. OSTERHAUT, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

(*Synopsis*)

Science in the secondary schools may be greatly improved in the following respects by the introduction of the right kind of material dealing directly with the pupil's daily experience:

First.—The teacher with a mere book knowledge of the subject will be unable to handle such material and must in consequence secure better preparation or cease to teach the subject.

Second.—Nothing can operate more effectively to do away with mere memory work and undue reverence for book authority than the appeal to the pupil's daily experience.

Third.—The pupil who has become interested in the principles of science as illustrated in everyday affairs will continue to think of them after he leaves the schoolroom for the day. And he may be shown how to put questions to nature with very simple means outside the laboratory, provided his conclusions are afterward reviewed in a sympathetic spirit by the teacher.

Fourth.—Correlation of the different sciences is in general best effected by applying them to some interesting problem growing out of the pupil's experience. For example, in the growing of plants and the study of the soil all the natural sciences are involved in an elementary way.

Fifth.—A very elementary study of the principles underlying certain subjects (such as sanitation) will do much to insure enlightened public sentiment in these matters.

A. PHYSICS

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During the last two decades the principal methods employed in the teaching of secondary-school physics have become established and standardized. No course in this subject today is considered effective unless it includes both quantitative and qualitative laboratory exercises, demonstrations with regular apparatus by the instructor, with collateral reading in both textbooks and general books of reference. There has also been established a balance of proportion in the time-allotment given to each particular mode of instruction. Corrections are also being made where excessive quantitative

requirements, and the formal demands of college-admission definitions have interfered with the proper presentation of the subject of physics in the work of the secondary school. With this ground gained, and these modes of approach fully settled, there still remain two results to be secured, and these two objectives are now clearly in sight.

First, it is desirable to arouse and maintain interest by bringing into the study many illustrations drawn from outside the schoolroom, whereby application can be made of the principles of science in the daily life and experience of the pupil. It has been found helpful, from the pedagogical standpoint, to approach the discussion of generalizations thru concrete illustrations. Members of a class, for instance, may secure data in regard to water-pressure in different points of a city system, study the situation of the aqueduct and reservoir, and from this material acquire the general principles of hydrostatics.

One result of such a method will be a certain differentiation of physics as taught in different schools.

When a proper value is once placed upon the illustration found in the vicinity, the classroom methods will necessarily undergo modifications. Topics well illustrated will receive larger emphasis. The pupil's interest will also be a guide in outlining the course, and that will be the criterion to decide the material and its order of presentation rather than any formal logical outline.

In the second place, teachers of physics are sure to profit by this mode of approach from the practical and concrete. The instruction, under such circumstances, in order to be effective, must be direct and vital, and can be given only by a teacher who is thoroly acquainted with the real facts of physics, as expressed in nature and in industry. Moreover, as pupils learn to connect their school work with their daily experience, with the devices used in their homes and in factories, there comes not only interest but ability to apply the knowledge gained in the classroom. An intelligent understanding of many of the public utilities of the community is a result of no small importance, as thereby civic interest and spirit are promoted. The pupil is also guided in some measure by such instruction into a wise choice of a vocation.

It is clear that this new conception of the teaching of physics is in opposition to a theory of instruction based on the presentation of physics as a body of organized information. While the teacher must be well informed in all phases of the science, there must also be a clear understanding of that which appeals to the pupil, that which arouses his interest, and an intelligent application of means whereby the activities of the recitation are connected with the world of men and affairs.

B. CHEMISTRY

JOSEPH S. MILLS, HIGH SCHOOL OF COMMERCE, NEW YORK CITY, N.Y.

Nearly all of the high schools in New York City give their pupils the uniform examinations prescribed by the State Board of Regents—examinations, in general, of the college-entrance type. The school work must of course be planned to meet these tests.

The growing conviction that such work, while possibly suitable for the future university men, is neither necessary nor particularly desirable for the average city boy, has found forceful expression in a recent action of the New York City High School Principals' Association. While adhering to the orthodox scheme for fourth-year pupils, these men recommend a preliminary or alternative course in practical chemistry to be given preferably in the second school year. From a number of suggested topics, selection is to be made to fit the needs of the pupils or the special character and surroundings of the school. Only enough pure and theoretical chemistry is to be taught to give comprehension of the subjects chosen, the predominant idea being to use chemistry to gain an understanding of commonly met substances and processes—reversing the usual procedure of teaching pure chemistry with practical illustrations as side issues. The list of topics proposed, twenty-seven in number, is as follows:

Water.
Burning.
Air and Ventilation.
Corrosion of Metals.
Acids, Bases, and Salts.
Oils and Fats.
Paints and Pigments.
Textile Fibers.
Cleansing.
Dyeing.
Leather.
Glass.
Clay Products.
Petroleum Products.
Coal and Coal Products.
Wood Distillation Products.
Foods.
Adhesives.
Putrefaction and Its Prevention.
Garbage Disposal.
Beverages.
Poisons and Antidotes.
Photography.
Explosives.
Metallurgy.
Metal Plating.
Alloys.

In the High School of Commerce, Manhattan, we have for the past two or more years had chemistry courses similar to those just outlined. In the fourth school year, boys can *elect* college-preparatory chemistry, and a fair proportion do so. In the second year of the school, however, commercial chemistry, as we term it, is required of all pupils. In this course, we have, during the past two years, taken up such topics as water, fuels, metallurgy, fibers, bleaching, dyeing, inks, drying oils and paints, fats and soaps, dairy products, starches, sugars, other food-stuffs, and alcoholic beverages.

In this work, practically no attention is given to theory and very little to chemical arithmetic, the latter being confined to simple problems in percentage composition and in weight relations. With the exception of oxygen,

hydrogen, and carbon, the elements are studied only incidentally in connection with the topic under consideration at the time.

As in such a course the laboratory work must be the main feature, only that will be further touched upon. With us the working period is about forty-five minutes long and the class is sent to the laboratory or classroom as is found desirable. Simple apparatus and short experiments must be the rule. To illustrate the work, two sets of experiments have been selected, the choice having been made to show possible drawbacks as well as excellences.

Under "Fuels and Metallurgy," the experiments now given are:

Effect of heating hard coal, soft coal, and wood.
Coal gas.
Reduction by means of carbon.
Preparation and reducing action of carbon monoxide.
Water gas.
Acetylene.
Distillation of petroleum.
Fire test of kerosene.

Every experiment, it will be noted, has a direct commercial bearing. In criticism it may be suggested: (1) The resemblance of the laboratory apparatus to that used commercially is slight, and (2) The sample of metal obtained in the third experiment is so small as to produce upon the pupil inadequate impression of the real magnitude of the metallurgical industries.

For our work on "Fibers," my colleague, Mr. O. R. Flynn, has during the past term given the following experiments:

Distinction between cotton, wool, and silk.
Separation of cotton from wool.
Preparation of chloride of lime.
Bleaching of cotton cloth.
Direct dyes—salting out and dyeing.
Basic dyes—properties; tannic acid as a mordant.
Basic dyes—antimony salts as mordant; dyeing.
Ferrous and ferric salts—preparation and properties.
Logwood dyeing with iron and chromium compounds.
Inks—iron tannate.
Inks—logwood.
Preparation and properties of indigo white.
Indigo and vat dyeing.

If no attempt be made to teach the formulas of the dyes, and if time can be given to complete it, this course can be given with decided success. It is certainly practical in a city whose clothing industry is so important; the laboratory samples can be sufficiently large to seem "real" to the boy; the methods are practically those of the factory; and the pupil has something tangible and striking to show for his labor.

If one may judge by the observations made in our school, the laboratory work would better consist of one or both of two things—either the preparation of some definite substance, or the working-out of some specific problem, not too hard.

C. ZOÖLOGY

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The history of the teaching of zoölogy in this country shows a considerable variation in both the aim and the content of the courses in secondary schools. The earliest teaching sought an extensive knowledge of the natural history of animals, for the sake of general information. As with all science of that period the method was that of learning out of a book. Laboratory work and training in scientific method had no place whatever in this work. In the latter part of the nineteenth century the influence of Huxley began to be felt. Huxley wanted to train up men to become advocates of the theory of evolution and with the able assistance of Martin of our own country devised laboratory courses which could not but convince the minds of the students of the correctness of that doctrine. So successful were they that all who fell under their influence either directly or indirectly felt that the *sine qua non* of zoölogy was the proper presentation of a series of animals in the laboratory, which would give the learner even in the secondary school the evidences of evolution. The use of the textbook was deprecated and as a consequence "training" and "discipline" became the supreme aims of the work. This happens to be the period that has impressed us most strongly, as our training was secured at the time when this sort of work had become most prominent. It is therefore difficult for us to change our point of view in the teaching of the subject.

In the early part of the present century there was somewhat of a reaction against this sort of work, the emphasis being placed upon habits, classifications, and life-histories as against details of structure, especially internal structure. This last can scarcely be said to have resulted in a widespread reform. The outlines of courses in the best high schools show the persistence of the principle of "training" advocated by Huxley and Martin.

Within the past five years, in accordance with a widespread popular demand, serious efforts have been made, first, to simplify and unify the secondary biology, and second, to make the work more practical from the standpoint of the everyday life of the pupil. The feeling as to the futility of the secondary biology is shown in one instance by the attitude of the Board of Education of New York City. Their special committee recommended some time since that biology be summarily dropped from the high-school curriculum, and a course in civics adopted in its place. This action set many able teachers to thinking very seriously. Why emphasize civics above biology? Could biology do anything for the boy as a future citizen that the study of civics could not do? Retaining our idea of the "training" and "discipline" afforded by our scientific method, is it possible by applying the searchlight of a new aim to the whole field of biology to discover materials which would be of more practical value to boys and girls?

The content of courses in secondary biology is determined by these four factors:

1. The preparation of the teacher.
2. Tradition.
3. The pedagogical aim.
4. The ultimate aim, in relation to the general scheme of education.

Our efforts to improve our courses practically are necessarily somewhat slow and faulty because of the first two factors. It is the last aim that acts as our most effective stimulus to reform. Our students must be taught not only to *know* but to *do*. They ought to *do* those things that will give them healthier bodies, that will make their homes and surroundings healthier and better, that will make them better citizens in their community, and they ought, in one way or another, to make their community a better place in which to live and work.

What topics receive emphasis then under this new interpretation of the function of zoölogy? The more important are the following:

I. Micro-organisms and their relation to health and disease.
II. Conservation of natural resources.
  1. Mammals.
    a) Mammals most important to man.
    b) Game laws.
    c) Mammalian products.
    d) Study of some typical industries based on a mammalian product, e.g., tanning, sheep ranching, cattle industry.
  2. Birds.
    a) Protection.
    b) Game laws—origin and object.
    c) Most useful birds.
    d) Bird products.
    e) Birds in relation to agriculture.
  3. Fish.
    a) Useful species.
    b) Spawning and its significance.
    c) Fish hatcheries.
    d) United States Fish Commission.
  4. Shell fish.
    a) Life history and habits studied with respect to their protection.
    b) Processes involved in gathering and shipping them.
  5. Crustacea. Same as 4.
III. Insects.
  1. Useful insects.
    a) Life-history and habits of one or more types.
    b) Study of a typical industry founded upon an insect product.
  2. Harmful insects.
    a) Disease-carriers.
    b) Destroyers of orchards.
    c) Destroyers of shade.
    d) Destroyers of farm products.
    e) Work of the Department of Agriculture in checking them.
    f) Economic significance.

IV. Animal breeding.
   1. Object.
   2. Methods.
   3. Results.
V. Economic forms of Amphibia and Reptiles.
VI. Sex education.
   1. Correlation of the study of propagation of fish with the details of human reproduction.
   2. Care of animals for their young and its bearing on the process of reproduction in man.

D. PHYSIOLOGY AND HYGIENE

LOUIS MURBACH, HEAD OF BIOLOGY INSTRUCTION, DETROIT, MICH.

From the nature of the subjects today and the papers presented, discussion will hinge on the so-called practical aspects of the study of human physiology and hygiene. In both nature study and elementary science the problems have been manufactured for the lessons. The present almost universal agitation in science teaching will bring about, if I mistake not, natural problems and more useful applications. It has been something like a child who hunts a board into which he may drive nails given him; it will be like a boy who looks for nails to hold together the boards he has cut for a box. Both learn to drive nails and this is practical, but only the boy who makes the box learns the real use of the nails. Now if he has *wanted* that box the practical value of manual arts is more fully illustrated.

I remember a discussion some years ago in a medical journal of good standing, on the value of the teaching of human physiology in high schools. One of the ablest surgeons in the city of publication of that journal stated that he thought the chief use of such teaching would be that patients might understand their physician better; could tell him better about their ailments, when afflicted. What shall we expect of laymen when such an opinion is deliberately given by a practitioner who must always be on the alert for the subjective way in which the sufferer puts his maladies? A layman or even a teacher cannot be blamed for having some doubt as to the practicability of the teaching of human physiology when the stigma of "poor teaching in the high schools" is put upon it by its own professors in colleges and universities. Let them rather profit by the examples of their colleagues in other high-school branches, prepare better teachers, and encourage those that are teaching it fairly well.

Not long since a teacher of experience visited an exhibition of the work of physiology students in the second year of a high school. He was struck by the accurate scientific explanation a girl gave of the experiment she was assigned, but also by her utter ignorance of the commercial application of the same principle. The dentist would have scholars know not only the structure and care of the teeth but also their origin and the ailments resulting from defective teeth. Even a teacher of the subject in a recent article

says, " . . . . books have overemphasized certain evils, and other evils, i.e., those attendant upon overfeeding and the *neglect of the teeth*, ... have been sadly overlooked."

The state's expert on poison cases would no doubt have his children learn something more of poisons and their antidotes than of other subjects. The dairyman would see the best part of the book in the pages on the sanitary housing of his cows and the production of cleanly milk. One recent school textbook devotes thirteen pages out of three hundred and six of the whole book to this subject; and this does not include what the cheese-maker would have in it, if he had the making of the book. And if you challenge the miller's interest, you may learn that he would have the growing citizen informed as to the proper way of making flour of different kinds from grain. Why should not those interested in the commerce of hides and furs be represented in the chapter on the skin? Why would not the huckster take new interest in his vendage when he learns from his children how valuable are vegetables and fruit, in our diet? And these are only a few of the interested claimants for recognition even in the study of physiology and hygiene.

It is natural, then, that we have been called on to consider the practical aspects of science in secondary education with especial reference to the introduction of materials from agriculture, household arts, technical industries, etc. These newest arrivals in the high school are seeking organic connection with their allies already in the curriculum.

Before going farther it may be well to consider the pedagogical and the scientific viewpoints. They are not two divergent views that are presented by the papers, the pedagogical and the scientific aspects. It is not the problem of science versus practice which was in the mind of the teacher before mentioned. It is rather the question to what extent materials may be taken from agriculture, household arts, technical industries, etc., and pedagogically presented in a course in human physiology and hygiene.

Point of contact with daily life and correlation would satisfy the pedagogical side. Both interest and attention would be gained and the view of the pupil would be broadened. These things are the apparent progress in the present tendency of school science teaching, i.e., the correlating of any part of a study with daily experience or needs. It is not difficult to see, e.g., that a boy studying agriculture would take greater interest in the germination of seeds when he learns that the digestion of starchy food in his own body is accomplished by means of similar ferments; or after learning about the bacterial diseases in man he will understand that the same principles will apply to domestic animals. Again, the animal origin of the fibers of woolen cloth, the heat-reflecting and absorbing qualities of cloth of different colors and different weave could be made correlative in either domestic art or in hygiene. And in cooking, there is a direct bearing on the physiology of the digestive organs, e.g., cooking for digestibility, for flavor, etc.

The use of wood and metal in the construction of utensils and homes may

be made of great importance in the study of hygiene. And in so far as our health may be affected by our comfort, the use of color and form may come under the same head from the æsthetic point of view.

This is only a glimpse of some of the practical applications that might be justified from the educational point of view of contact and correlation. There is, on the other hand, the danger that our ends in such education may become narrow, even utilitarian, when we allow branches or groups to become segregated. What I mean is that all attempts to establish special industrial schools, e.g., agricultural, manual-training, or art schools, *in secondary education*, are dangerous to the welfare of general education. The superstructure will scarcely be broader than the narrow foundation.

REPORT OF COMMITTEE ON ENCOURAGING COLLEGE ENTRANCE CREDIT IN HIGH-SCHOOL AGRICULTURE

A. B. GRAHAM, OHIO STATE UNIVERSITY, COLUMBUS, OHIO, CHAIRMAN

No college official replying to inquiries concerning college-entrance credit in agriculture has questioned its informational or disciplinary value. On the other hand, many of them have been inclined to encourage the teaching of agriculture in the high school as a phase of applied science and further to quicken the power of observation.

The chief difficulties to be encountered in giving college-entrance credit for high-school agriculture are the determination of what should constitute a unit or a half-unit and the quality of the teaching of this subject. Since most colleges and universities are unwilling to give more than one-half or one full unit of credit, it must so far be considered that the subject of agriculture taught as a high-school branch is a science branch worthy of no greater consideration at present than any other branch for which one-half or one unit of credit is given, even tho the subject be taught during a longer period of time than one year. Few, if any, colleges or universities have been found that are willing to give any credit on the science of agriculture, if such agriculture as is taught is only some application of general science.

In a condensed form, the following definition of a unit and a half-unit seems to be acceptable to most institutions:

One-half Unit—One half-year given to the study of soils and plants and their relation to each other. There shall be sufficient experimental work to accompany the subjects discussed.

One Unit—One full year given to the study of soils, plants, insects, and farm animals. There shall be sufficient experimental and demonstration work to be equivalent to one full year of laboratory work.

In some institutions there is a high-school visitor whose duty it is to determine the quality and quantity of work in the high-school branches; therefore it becomes his duty to determine whether a unit or one-half unit

of work is being done in agriculture. In other institutions the head of one of the science departments or of a department most closely related to agriculture determines whether or not the standard of an entrance-credit unit has been offered.

A great many institutions signify a willingness to give credit for high-school agriculture provided a student offers it. The general disposition of most colleges and universities in the north-central, western, and southern states is to give credit for this branch of applied science which the high schools themselves are not offering up to any reasonable standard of entrance requirement. Some high schools are offering work in elementary agriculture that is little, if any, above the standard of requirement for the eighth grade of an elementary school. Colleges will be much more willing to accept agriculture as an entrance branch as soon as high-school teachers will prepare themselves for the teaching of this important subject with a little more than just the practical experiences which they have some recollection of experiencing on a farm. Below will be found a list of colleges from whom replies have been received concerning the giving of entrance credit.

COLLEGES GIVING CREDIT. 36

New Mexico Agricultural College, Agricultural College, N.M.
University of North Dakota, University, N.Dak.
University of Arizona, Tucson, Ariz.
State Agricultural College, Fort Collins, Colo.
University of Alabama, University, Ala.
Montana Agricultural College, Bozeman, Mont.
University of Idaho, Moscow, Idaho.
University of Montana, Missoula, Mont.
Purdue University, Lafayette, Ind.
University of Middle Tennessee, Tullahoma, Tenn.
University of Florida, Gainesville, Fla.
South Dakota State School of Mines, Rapid City, S.Dak
Iowa State College, Ames, Iowa.
University of Nebraska, Lincoln, Nebr.
Cornell University, Ithaca, N.Y.
Johns Hopkins University, Baltimore, Md.
Washington State University, Seattle, Wash.
Oregon Agricultural College, Corvallis, Ore.
University of California, Berkeley, Cal.
State University of Utah, Salt Lake City, Utah.
Mississippi Industrial Institute and College, Columbus, Miss.
Kansas City Veterinary College, Kansas City, Mo.
Wesley College, North Dakota.
Lenox College, Hopkinton, Iowa.
Cotner University, Bethany, Nebr.
Grand Island College, Grand Island, Nebr.
Greer College, Hoopeston, Ill.
Knoxville College, Knoxville, Tenn.
Central Wesleyan College, Warrenton, Mo.

Macalester College, St. Paul, Minn.
Milton College, Milton, Wis.
Miami University, Oxford, Ohio.
Ohio Wesleyan College, Delaware, Ohio.
Ashland College, Ashland, Ohio.
Defiance College, Defiance, Ohio.
University of Kansas, Lawrence, Kans.

COLLEGES GIVING NO CREDIT. 23

University of North Carolina, Chapel Hill, N.C.
The University of Chicago, Chicago, Ill.
South Dakota State College, Brooking, S.Dak.
Columbia University, New York City, N.Y.
New Mexico School of Mines.
Illinois College, Jacksonville, Ill.
Montana School of Mines, Missoula, Mont.
Wooster University, Wooster, Ohio.
Occidental College, Los Angeles, Cal.
Hamilton College, Clinton, N.Y.
Central College, Fayette, Mo.
Erskine College, Due West, S.C.

(*a*) *Colleges Giving No Credit but Willing to Consider the Matter*

Vanderbilt College, Nashville, Tenn.
Wabash College, Crawfordsville, Ind.
Earlham College, Richmond, Ind.
Missouri Valley College, Marshall, Mo.
Cornell College, Mt. Vernon, Ia.
Armour Institute of Technology, Chicago, Ill.
Denison University, Granville, Ohio.
Kenyon College, Gambier, Ohio.

(*b*) *Colleges Not Giving Credit at Present but Matter Put before a Committee*

Syracuse University, Syracuse, N.Y.
University of Minnesota, Minneapolis, Minn.
Butler College, Indianapolis, Ind.

COLLEGES PREPARING TO GIVE CREDIT. 8

North Carolina College of Agriculture amd Mechanic Arts, West Raleigh, N.C.
St. Louis University, St. Louis, Mo.
Wheaton College, Wheaton, Ill.
Bellevue College, Bellevue, Nebr.
Wittenberg College, Springfield, Ohio.
Rio Grande College, Rio Grande, Ohio.
Antioch College, Yellow Springs, Ohio.
Wilmington College, Wilmington, Ohio.

COLLEGES WHO WOULD GIVE CREDIT IF ASKED TO OR ARE WILLING TO GIVE CREDIT FOR WORK PROPERLY DONE. 27

Iowa Wesleyan, Mt. Pleasant, Ia.
Missouri Wesleyan, Cameron, Mo.
Indiana University, Bloomington, Ind.
State University of Iowa, Iowa City, Ia.
Mississippi Agricultural College, Agricultural College, Miss.
University of Nevada, Reno, Nev.

Stanford University, Stanford University, Cal.
University of Oregon, Eugene, Ore.
University of Southern California, Los Angeles, Cal.
St. Lawrence University, Canton, N.Y.
Nebraska Central College, Central City, Nebr.
Amity College, College Springs, Ia.
Penn College, Oskaloosa, Ia.
Drake University, Des Moines, Ia.
Ouachita College, Arkadelphia, Ark.
Westfield College, Westfield, Ill.
Simpson College, Indianola, Ia.
St. Olaf College, Northfield, Minn.
Redfield College, Redfield, S.Dak.
Des Moines College, Des Moines, Ia.
McKendree College, Lebanon, Ill.
Moore's Hill College, Moore's Hill, Ind.
Ohio Northern University, Ada, Ohio.
Mt. Union College, Alliance, Ohio.
Marietta College, Marietta, Ohio.
Buchtel College, Akron, Ohio.
University of Cincinnati, Cincinnati, Ohio.

Committee { A. B. GRAHAM, C. H. ROBISON, E. E. BALCOMB

ROUND TABLE CONFERENCES

A. ENGLISH

REBUILDING AN ENGLISH COURSE

EDWIN L. MILLER, CENTRAL HIGH SCHOOL, DETROIT, MICH.

Ever since I became a teacher of English, I have heard teachers of English abused. Before that, I abused them myself. Tho all sorts of people join in this chorus of detraction, the voices which are most frequently and vociferously lifted up to condemn us are those of young college professors and old business men. Anybody, they say, can teach English; but nobody succeeds in doing it.

If one is to judge solely by the results secured, these charges are in large measure just. If the problem is considered steadily, however, and considered whole, the wonder grows, not that we do so badly, but that we succeed at all.

"To be a well-favoured man," says Shakespeare, "is the gift of fortune; but to read and write comes by nature." Nothing is truer. It is easier to convert a Caliban into an Apollo than it is to make out of a child whose associations are vulgar a writer or a reader. Among autoists there is a belief which amounts to a certainty that it is much easier to build a new car than to repair an old one. Now, there is a rough analogy between the English teacher and the repair man. Each has to make what he can out of a machine wrenched and bumped by careless driving on rough roads. It is not so with teachers of Latin and physics; they work in a factory, not in a garage.

These are unalterable conditions. But there are some circumstances that hamper high-school work in English which can be changed or removed. In Detroit we have been trying to do this; and it is the object of this paper to report progress, so to speak.

I say to report progress, for as yet, to say nothing of solving, we have attacked only a part of our problem.

In teaching English, our object is to train the pupil in such a way that he will be master of the art of communicating ideas by means of the mother-tongue. This sounds a bit grandiloquent, and it would probably be better to say (as it would surely be clearer) that we are trying to teach him: (*a*) to read and listen; (*b*) to speak and write. In other words, we wish him to be able to make other people understand in the largest and best sense what he thinks, feels, and wills, and to be able, with equal sympathy and understanding, to enter into their thoughts, feelings, and desires. Of course this is an unattainable ideal. We shall be abundantly satisfied if, when he is graduated, he can write a good letter and likes to read a good book.

With us the greatest stumbling-block in our efforts to secure these results have been: (*a*) lack of equipment; (*b*) lack of teachers; (*c*) lack of time; (*d*) lack of organization.

a) Every English teacher's classroom should be so furnished, decorated, adorned with pictures, and filled with books as to suggest, not a schoolroom, but a scholar's den. It should be pervaded, in other words, by an atmosphere of literary elegance. This we have not attained.

b) When I say that we lack teachers, I refer to quantity, not to quality. Our teachers are overworked. There are not enough of them. The 2,518 pupils in our department last semester were taught by 16.3 teachers. Each teacher, in other words, had 154.5 pupils. Six of them had six sections apiece. The rest had each five. No teacher of English should have more than one hundred pupils or more than four sections. Under these conditions only is it possible to give to each pupil that individual attention which is essential to successful work in composition and hardly less essential if one is to awaken in the pupil a loving regard for books.

c) and *d*) We have been able, however, to readjust our courses, so as to get more time and to secure a better organization of our work. We have recently added eight one-hour courses in reading and speaking, two four-hour courses in English, and two four-hour courses in literature. We have also separated our courses in interpretation from our courses in constructive English.

Detroit Central High School

OUTLINE OF COURSES IN ENGLISH, FEBRUARY–JUNE, 1910

Course 1.—*Grammar:* Buehler's *Modern English Grammar*—Introduction and Part I. *Composition:* Sykes's *Elementary English Composition*—Part I, chaps. 1–7; Part VI, chap. 3.

Course 2.—*Reading:* Coleridge's *Ancient Mariner;* Dickens' *David Copperfield;* Homer's *Iliad* and *Odyssey;* Irving's *Sketch Book;* Lowell's *Vision of Sir Launfal;* Macaulay's *Lays of Ancient Rome;* Shakespeare's *Julius Cæsar;* Stevenson's *Treasure Island.*

Course 3.—*Grammar:* Buehler—Part II, chaps. 1–6. *Composition:* Sykes—Part I, chaps. 8–10; Part II; Part VI, chap. 1.

Course 4.—*Reading:* Blackmore's *Lorna Doone;* Goldsmith's *Deserted Village;* Scott's *Ivanhoe* and *Lady of the Lake;* Shakespeare's *Merchant of Venice* and *As You Like It.*

Course 5.—*Grammar:* Buehler—Part II, chaps. 7–11; and Review. *Composition:* Sykes—Parts III, IV, and V.

Course 6.—*Reading:* George Eliot's *Silas Marner;* Lincoln's *Speeches;* Lowell's *Present Crisis;* Macaulay's *Johnson, Clive,* and *Hastings;* Shakespeare's *Henry V.*

Course 7.—*Theme Writing.*

Course 8.—*College-Entrance Study Books: Macbeth;* Milton's *Minor Poems;* Burke's *Conciliation;* Carlyle's *Essay on Burns.*

Literature 1.—*American Literature.* History of American literature and reading: Emerson's *Essays;* Franklin's *Autobiography;* Hawthorne's *House of the Seven Gables;* Longfellow's *Courtship of Miles Standish;* Lowell's *Commemoration Ode;* Parkman's *Oregon Trail;* Poe's *Poems;* Thoreau's *Walden;* Whittier's *Snow-Bound.*

Literature 2.—*Nineteenth Century English Literature.* Textbook: Halleck. Reading: Browning's *Poems;* Byron's *Childe Harold* and *Prisoner of Chillon;* Dickens'

Tale of Two Cities; Mrs. Gaskell's *Cranford;* Huxley's *Lay Sermons;* Palgrave's *Golden Treasury,* Book IV; Scott's *Quentin Durward;* Stevenson's *Inland Voyage* and *Travels with a Donkey;* Tennyson's *Princess.*

LITERATURE 3.—*English Literature down to Milton.* Textbook: Halleck. Reading: Tennyson's *Idylls of the King;* Chaucer's *Prologue;* Spenser's *Faerie Queene;* Shakespeare's *Hamlet* and *Lear;* Bacon's *Essays;* Palgrave's *Golden Treasury,* Books I and II.

LITERATURE 4.—*English Literature from Milton down to the Year 1800.* Textbook: Halleck. Reading: Palgrave's *Golden Treasury,* Books III and IV; Milton's *Paradise Lost;* Bunyan's *Pilgrim's Progress;* Addison's *Sir Roger de Coverley Papers;* Macaulay's *Essay on Addison;* Pope's *Rape of the Lock* and *Essay on Criticism;* Thackeray's *English Humorists;* Defoe's *Robinson Crusoe;* Johnson's *Rasselas;* Goldsmith's *Vicar of Wakefield* and *She Stoops to Conquer;* Sheridan's *Rivals* and *School for Scandal;* Burns's *Poems.*

1. All students must take English 1–6 inclusive. All students preparing for colleges or normal schools should take in addition 7 and 8.

2. All of these courses are four-period courses. An additional period each week is devoted to reading and speaking.

3. Home-reading is required in all courses.

4. In Courses 1, 3, and 5, six weeks are set aside for grammar, fourteen for composition.

5. The Literature courses are for eleventh and twelfth-grade students.

The books set for reading are mostly those in the last college-entrance list. Nearly all of them are well adapted for our purposes, but a wider list, or a supplementary list for home reading, is, I think, in the highest degree desirable. Irving's *Sketch Book* is the least and *David Copperfield* the best calculated to stimulate first-year high-school students to feel a genuine interest in literature. We intend to replace Macaulay's *Clive* and *Hastings* as soon as possible with Gladstone's edition of Macaulay's speeches. These speeches not only exhibit Macaulay at his best, but are, on the whole, except Lincoln's addresses, if not the best specimens of argumentation in the language, the best adapted to the comprehension of high-school students. Dealing as they do with questions which have long confronted Englishmen and are beginning to darken our own horizon, they are vital in subject-matter. Trevelyan truly describes the speeches on "Copyright" as being as convincing as a proposition of Euclid and as entertaining as an Essay of Elia; and I am inclined to think that the same may be said with propriety of those on "The Reform Bill," "Chartism," "The Ten Hours' Bill," "The Gates of Somnauth," "Maynooth," and "Education."

The course in American literature appears to me to be not only desirable in itself, but necessary, if we are to avoid the reproach of graduating pupils who are ignorant of everything respectable that has been written on this side of the Atlantic. We look upon it as an essential tribute to patriotism. It is put first on the theory that our American classics, for the most part, are more on a level with the intelligence of eleventh-grade students than are those of foreign lands or remote periods. On the same theory we study nineteenth-century English literature before we attack Chaucer, Bacon, Spenser, and Milton.

I sometimes think that we might even reverse to advantage the order of Literature 3 and Literature 4.

Of the books included in Literature 2, 3, and 4 we get the best results from the *Tale of Two Cities,* the *Princess,* the *Idylls of the King,* Chaucer's *Prologue,* *Hamlet,* *Lear,* and the *Golden Treasury.* The *Idylls of the King* are put in Course 3 ahead of Chaucer, because in subject-matter they go back to the days when the Romans had just left Britain and the Saxons had just come, and because they will excite an interest, if anything will, in Layamon and Sir Thomas Malory. *Puck of Pook's Hill* might be added to Course 3 to brighten up several other dark spots between the days of Julius Cæsar and the days of King John.

So much for our reading as it stands today. We have added, I think, in two other ways to the efficiency of our course.

Of these the first is the efficiency due to increased size and weight. Formerly a pupil could take, in the four years of his high-school course, only thirty-two hours of English. He can now take fifty-six. This fact is bound to increase the amount of English studied and the amount learned.

The separation of the work in constructive English from the work in interpretation is of even greater importance. Our old method was to have grammar on Monday, composition on Tuesday, reading on Wednesday and Thursday, and speaking on Friday. This had about the same relation to a real course that a dish of chop suey has to a thick sirloin steak. If it was a proper arrangement, it would be equally proper for the Science Department to have geography on Monday, botany on Tuesday, zoölogy on Wednesday, chemistry on Thursday, and physics on Friday.

In his *Essay on Burns*, Carlyle says that Burns failed because he lacked unity of purpose; his life was like a wedge with two edges. He could read nothing but himself. This is a good description of our old course. In trying constantly to do two things at one time we did neither. While reading, we were always worrying about "that dreadful composition work"; and, as reading is so much easier than writing, we often did nothing with composition but worry about it. There was never any impetus to our work. Each side, instead of helping, hindered the other.

There were also some homely practical difficulties. Students were continually pretending that they thought grammar days were reading days and writing days speaking days. A student who was a glib talker and good reader often got a passing mark, even tho he thought that the subject should always be separated by a semicolon from the verb. Even when such a case was properly diagnosed, the bookkeeping incidental to its correction was cumbersome, and it was not fair to the student who had failed in composition to require him to do over a term of reading which he had already done in a perfectly satisfactory manner.

Separation has removed these difficulties. If a student can read he now gets credit for it. If he cannot write, his deficiencies are discovered and corrected with no waste of his time or his teacher's. There is no longer any chance for Tom to bring the wrong book to class. The teachers no longer worry about what they ought to be doing. The work used to go like a pay-enter car; it proceeds now with the speed of an express train. The value of this added impetus is indescribable. The students are beginning to take the work more seriously. It is no longer, as they put it in their quaint and vulgar patois, a "snap". Pass slips have acquired a new meaning. "So decided is the improvement," said one of our teachers to me the other day, "that I would not go back to the old arrangement for anything." "My pupils," I was recently told by another, "have learned more the last three weeks than in the previous three years."

Altho most of the teachers with whom I have discussed this subject agree that separation is desirable, three or four objections have been offered. Of these I wish briefly to speak:

a) A whole semester of composition will crush a teacher. We have provided for this by giving teachers, as far as possible, half of their work in composition and half in reading courses. Thus nobody works any harder than before, unless there be some teachers who, under the old régime, slighted the work in composition.

b) The adolescent mind is so constituted that it cannot concentrate itself for forty-five minutes on one thing, i.e., on reading, composition, or grammar. Therefore we should have fifteen minutes of each in each recitation. If so, why not, in each mathematics period, have ten minutes of arithmetic, ten of bookkeeping, ten of algebra, ten of geometry, and five of trigonometry? Or, better still, why not have in each period a mixture of French, chemistry, cooking, basket-ball, and biology?

Absurd as this objection sounds, it indicates a real danger. Not all of our teachers have been trained in the art of teaching composition. Some of them think that there are in it only two steps: (1) assigning of a subject; (2) correcting the papers. Such

teachers naturally take refuge in the mixture theory. They think that they must have something to fill in the intervals between compositions. These teachers must be educated.

c) The study of composition should be based on literature. It should and we do it. Only we do it more effectively than we could prior to separation. Instead of asking our pupils to imitate Spenser's *Faerie Queene* and Browning's *Saul*, we select for their models bits of writing that they can and do imitate with ease and pleasure. On the other hand, we still have written work in our reading courses. To state the point in another way, we write in our reading courses in order to help our reading; in our writing courses we study literature in order to learn how to write.

d) One objection remains. It will be said that a whole semester of composition is too much like real work. It will bore the pupils. To this I answer that such an objection is an injustice to our pupils. If there is any one thing that really interests them, it is work. They do not want a diet that is all frosting and whipped cream. It is just the fact that English has been made such a "nice, lovely, inspiring" study that, more than anything else, has brought the study of English into disrepute. But of real interest there need be no lack in a composition class. If it be organized and conducted as a serious study, it is more interesting than a class in literature, just as it is more interesting to play football than to stand on the sidelines. There is abundant testimony on this point from pupils, teachers, and parents.

What we have thus far accomplished leads me to believe that, when our new arrangements begin to have their full effect, we shall come a good deal closer than hitherto to getting satisfactory results in grammar and composition. The problem of teaching literature is more difficult. It cannot be said to be solved until every graduate has the reading habit. How far we are from this goal I was rudely reminded the other day when a dealer in second-hand books showed me a copy of Palgrave's *Golden Treasury* which one of our graduates had just sold to him for twelve cents in order to get the price of a ticket to a moving-picture show. Nor is this situation peculiar to Michigan. A few days later I met in Chicago a man who teaches literature as if he were inspired and gets $4,000 a year for doing it. He said to me: "I am in despair. I have just read a set of papers written by a class that has been studying Milton for twelve weeks. One of them ascribes the authorship of *Paradise Lost* to Alexander Pope and another to John Woolman. Now what can one do about it?" What, indeed, except perhaps, as one of my students in his guileless ignorance of orthography recently suggested, to go up to the top of Vesuvius to see the "creator smoke," and to take such comfort as may be derived from one of Burns's sagest reflections:

> If honest nature made you fools,
> What sairs your grammars?

ESSENTIAL PRINCIPLES IN TEACHING ENGLISH

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The problem of teaching English literature to pupils in the secondary schools is not to be considered an easy task. To approach the work with the misconception that it need be fraught with little effort or anxiety is a sure method of steering directly toward disaster. But to say that it is difficult and to urge that it demands painstaking labor, is not to stigmatize it. Rather because of these inherent hindrances we can assert that it is supremely interesting, and that the task can be made to yield genuine pleasure and constant enlightenment. To discuss in a general way how joyful and intelligent interest may be made to pervade the difficult task of teaching English literature to pupils of high-school age is the object of this address. This discussion will be adequate only when, together, we have answered the general query, "What are the essential principles which should guide instruction in English literature?" To this query there are two general replies, and each reply will allow detailed comment.

1. The pupil must be made to apprehend the objective meaning of the message.
2. He must be made to comprehend the subjective meaning of the message.

In saying that the pupil must be made to apprehend the objective significance of the message, I mean simply and solely that he must understand the message of the text; he must see what facts the writer is trying to impart; he must translate into mental concepts these arbitrary signs which we call words.

"But this," the inexperienced teacher may say, "why, this is easy; the pupil can pronounce these words, and if he can pronounce them, surely the words instinctively carry with their pronunciation the intended meaning!" But could that inexperienced teacher have a photograph of the mental pictures which a selected bit of literature has imprinted upon the several minds in the pupils before him, he would be appalled. And the most appalling feature of the situation would not be the array of false concepts, but it would be the array of hazy concepts; or, in many cases, the absolute lack of any concept whatever.

Let us play a little longer with this photographic trope. This inexperienced teacher of literature is much like the very amateur photographer. Our neophyte artist has read his book of instructions carefully; he now thinks he knows the mechanism of his instrument, and he takes it out into the landscape, sets up his tripod, and fires his several shots. Everything apparently works well, and he goes to his dark-room in high expectancy. He thinks he knows what each plate will reveal. He eagerly anticipates the beautiful cloud effects in plate number *one;* the lights and shadows that the willows cast in beautiful intermingling over the brooklet in plate number *two;* and the splendid contour of the tree-bestrewn and rock-laden mountain in plate number *three.* But alas! under the the weird light of his ruby lamp the new chemicals in their dish of shining japan reveal no such æsthetic delights. The outlines refuse to stand out in bold relief; rude blotches mar the cumulus clouds; the willows are covered with spiteful air-globules of varied diameters; the mountain is a dismal, dead blank. And the ambitious artist, when he leaves the dark-room, goes sadly to the library, picks up his Coleridge, and wearily sits down to read that splendid definition of dejection:

> A grief without a pang, void, dark, and drear,
> A stifled, drowsy, unimpassioned grief,
> Which finds no natural outlet, no relief,
> In word, or sigh, or tear.

Our photographic figure, however, does not walk on all fours. The tyro in English teaching is not so effectively saddened; for he, working with sensitive minds rather than with sensitive plates, has no such positive and enlightening way of knowing of his failure. Accordingly he is too often content to go ahead, until finally by some hook or crook he is rudely shaken into the conviction that by his inane teaching the pupils are having all their literary nerves devitalized. Instead of these neurones being set a-tingle by the suggested color-concepts falling on fair Madeline's fair breast in the crypt of the moonlit church; instead of a brilliant re-creating of the notes of the pealing organ and the full-voiced choir which dissolved the devotee of melancholy into ecstasies and brought all heaven before his eyes; instead of these highly desirable and complacently assumed conceptions, we have, alas! a dim and misty grayness shadowing all. Not in every case, let me hasten to say. We who have taught have had the exquisite pleasure of hearing the voice tremble and of seeing the eye glisten its appreciation of sensitive effects, and in those moments we have thanked the gods—and not amiss—that they had allowed us to play a part in leading a young companion to a plane where his horizon of beauty was suddenly and richly expanded—and then at a glance toward the stolid and the unaroused, our thanks retreat to seek the ebon shades of some dark Cimmerian desert.

But merely to point out defects in teaching is not to eradicate them. The physician after he has made his diagnosis must try to effect a cure. What, we may ask, is the

cure for frowsy habits of reading? How can the amateur teacher of English become a professional expert?

The teacher must first convince his slipshod readers that their reading is slipshod. He must make them realize that true reading involves the re-creation in the reader's mind and heart of the essential concepts and the essential emotions which dictated the master's writing. The mere mechanical pronunciation of words as an end in itself this true reader will gradually learn to spurn; the revisualizing of concepts and the revitalizing of emotions he will learn instinctively to demand. Along with this will come the conviction that literature cannot be effectively studied while the pupil reclines on a soporific couch, or lolls luxuriously in a Morris chair. For most of us the study of literature demands the posture of a straight-backed stool. But what specific pedagogical effort will establish the conviction that words must be vitalized, that sentences and paragraphs must be transfused with the glory and the strength of imagination?

As a mere device try this: Read to your pupils—or have the pupils read to themselves—a stanza of poetry, or a paragraph of prose; then immediately demand that books be closed. Open a series of questions. What pictures, class, have you in your mind? What senses are appealed to? sight? sound? feeling? odor? taste? Is there any sensation of movement? Is this upward? downward? straightforward? crooked? zigzag? winding? Are there any words which refuse to yield a definite meaning? If so, why? What is the strongest appeal made to your imagination?

Let's take a concrete case from Tennyson's *Passing of Arthur* and see what sort of questions and comments will create concepts, vivify language, and arouse emotions:

> Then saw they how there hove a dusky barge,
> Dark as a funeral scarf from stem to stern,
> Beneath them; and ascending they were ware
> That all the decks were dense with stately forms,
> Black-stoled, black-hooded, like a dream—by these
> Three queens with crowns of gold—and from them rose
> A cry that shiver'd to the tingling stars,
> And, as it were one voice, an agony
> Of lamentation, like a wind that shrills
> All night in a waste land, where no one comes,
> Or hath come, since the making of the world.
> Then murmur'd Arthur, "Place me in the barge,"
> So to the barge they came. There those three queens
> Put forth their hands, and took the King, and wept.
> But she that rose the tallest of them all
> And fairest laid his head upon her lap,
> And loosed the shatter'd casque, and chafed his hands,
> And call'd him by his name, complaining loud,
> And dropping bitter tears against a brow
> Striped with dark blood; for all his face was white
> And colorless, and like the wither'd moon
> Smote by the fresh beam of the springing east;
> And all his greaves and cuisses dash'd with drops
> Of onset; and the light and lustrous curls—
> That made his forehead like a rising sun
> High from the dais-throne—were parch'd with dust,
> Or, clotted into points and hanging loose,
> Mixt with the knightly growth that fringed his lips.
> So like a shatter'd column lay the King;
> Not like that Arthur who, with lance in rest,
> From spur to plume a star of tournament,
> Shot thro' the lists at Camelot, and charged
> Before the eyes of ladies and of kings.

Immediately after the passage is read let all books be closed. Some pupil may first be called upon to describe the picture which was in Tennyson's mind. Omitted details may then be supplied by the class. Or perhaps the teacher will prefer to test the pupils by asking questions that will at once bring out certain details.

Now we must remember that the concrete image is the basis of all sensory imagery, for sensory imagery means simply and solely the concrete impressions that strike the senses—sight, hearing, feeling, smell, and taste. When we remember that originally all language was pictorial and that the modern civilized child cares little for the unillustrated book, and that even we who are more mature smile approvingly when we learn that the lecture we are to attend is to be illuminated with the stereopticon—when we remember all this, we begin to have an idea of what an important part these concrete, visual images play in our daily life.

When we apply our study of sensory imagery to the interpretation of literature, it means that we are not getting the exact picture that was in the author's mind unless we know the exact details—real or imaginary—that were in the author's mind. Now for the purposes of sympathetic reading it is of course not necessary that the exact image originally in the poet's mind be re-created—the essential thing is that the reader study the particular passage he is reading with the idea of securing as nearly as possible the writer's point of view. Then by the proper arrangement and massing of details, the alert, sensitive reader—provided his experience be sufficient—can create the adequate image and come into proper sympathy with the author.

But in all our teaching we are too prone to forget that the experience of our pupils is severely limited. The trouble with them and with ourselves is just this—we have not seen enough. Or if we have seen enough, we have not observed closely enough.

The solution here, I believe, is the same as in the realm of practical ethics—the instillment in the individual mind of the necessity of a wise unselfishness, the partial effacement of the individual egoism—a liberal catholicism. Applying the dictum to ourselves as readers, we must learn to feel how extremely narrow has been the experience which has come to each one of us and do all we can to widen it.

One passage of Shakespeare's—the speech of Lady Macbeth in the sleep-walking scene—is one of the best illustrations in all literature of the effective use of the sense of smell. Verplanck, after mentioning the fact that the more agreeable associations of this sense are often used for poetic effect, adds:

> But the smell has never been successfully used as a means of impressing the imagination with terror, pity, or any deeper emotions, except in this dreadful sleep-walking scene of the guilty Queen, and in one parallel scene of the Greek drama, as wildly terrible as this. It is that passage of the *Agamemnon* of Aeschylus, where the captive prophetess, Cassandra, wrapt in visionary inspiration, scents first the smell of blood, and then the vapors of the tomb breathing from the palace of Atrides, as ominous of his approaching murder.

As an example of other sensations of odor, I may quote from the King James Version of Solomon's Songs, chap. 3, vs. 6:

> Who is this that cometh out of the wilderness like pillars of smoke, perfumed with myrrh and frankincense, with all powders of the merchant?

All of you will recall the famous scene when Jacob, pretending to be Esau, goes to his father:

> And his father Isaac said unto him, Come near now, and kiss me, my son. And he came near, and kissed him: and he smelled the smell of his raiment, and blessed him, and said, See, the smell of my son is as the smell of a field which the Lord hath blessed.

When we come to the consideration of touch imagery we find it to include sensations of movement, muscular pressure, and temperature. The exhilarating movement of a fast-plying ship, the grasp of the hand, the sense of warmth and cold—all these are freely employed in literature. Perhaps in some cases they have been too freely employed. I have a friend who has cared nothing for Keats since he noted the poet's allusion to kisses as *slippery blisses*.

Now among all the touch images in literature I know of none that makes a more delicately sensuous appeal than the one used by Rosetti in *The Blessed Damozel*. All

of you will recall the picture of the maiden leaning over the bar of heaven. To this visual image the poet adds details beautifully illustrative of the tactile sense,

> And still she bowed herself and stooped
> Out of the circling charm;
> Until her bosom must have made
> The bar she leaned on warm,
> And the lilies lay as if asleep
> Upon her bended arm.

We must not assume, however, that the pupil's apperception of such sensory images as these, their analysis and their labeling, is the *sine qua non* of English teaching. There should be merely enough of this to arouse the inert and to stimulate the curious. To many these concepts will of course come without the teacher's aid, and we must be careful that students of quick insight be not satiated with the mere routine of analysis.

There are two or three other practices corollary to this visualizing process, which are vital to the apprehension of the objective meaning in literature. The pedagogical significance of these we may now briefly examine.

Among the most valuable practices which an English teacher may employ is the illumination of the abstract by concrete illustrations. Take, for example, that well-known couplet from *Locksley Hall*—

> Love took up the harp of Life, and smote on all the chords with might;
> Smote the chord of Self, that, trembling, past in music out of sight.

In elaborating the meaning of these lines which show the power of love in effacing self, the teacher should draw upon the great realm of life and story and tell—or have his students tell—of some great sacrifice which a mother has made for a son, a wife for a husband, or a sweetheart for a lover. Let the narrator bring forward in its detailed concreteness that splendid immolating spirit of Sydney Carton—that greatest of all characters in the greatest of Dickens' novels. Carton's love for Lucie Mannette was so supremely great that he would not even offer himself in marriage, for he knew too well that his dissolute, impractical nature was ill-suited to the office of husband. But he bided his time in pitiable isolation of spirit, faithful always to that early promise that he would willingly make any sacrifice to keep her, or any dear to her, safe from any evil or any peril. And when, in that strange and intense situation in the prison of the *Conciergerie*, when he found that it was possible for him, by a vicarious sacrifice, to liberate the husband of her whom he loved so unselfishly, then willingly he laid down his life in order that Charles Darnay might be saved to Lucie and to Lucie's children. With the example of this sacrifice fresh before us, shall we not revert with renewed interest to the abstraction of the poet, and read with keener delight the words which a concrete example has clarified? Try it now in your own instance as we repeat the couplet:

> Love took up the harp of Life, and smote on all the chords with might;
> Smote the chord of Self, that, trembling, past in music out of sight.

Finally, the message of the text, its objective significance, cannot be understood without understanding the meaning of words and the references. This conquest will always be a portion of the work fraught with great difficulty. If as students we are to progress in our education, these words and references will not come without physical and mental effort. They often demand a trip downstairs to the dictionary or to the encyclopedia. Oftentimes they will invoke the reading of other literary selections. What they most insistently urge is intelligent effort toward the comprehension of their application in a particular case. In this it often happens that the reference books give little aid; we must rely upon a concentration that will yield its natural mental product.

And now together I think we are agreed on one answer to this query concerning the essential principles which should guide our instruction in English literature. In our first reply—*the pupil must be made to apprehend the objective meaning of the message*—we emphasize the importance of an imaginative translation of words into concepts. By

insisting upon the definite re-creation of those images which appeal to sight, hearing, feeling, odor, and taste, we insure a sympathetic interpretation which mere pronunciation of words does not necessarily convey. Aside from questions designed to re-create these sensory images, we insist upon concrete examples to illustrate the abstract, upon expressive oral reading, and upon such a conscientious use of the dictionary and the encyclopedia as will aid in vitalizing the obscure. But necessary to the full enjoyment and the full comprehension of literature there must be a concurrent reaction which the second reply suggests.

You will recall the phrasing of this second reply. *The reader must comprehend the subjective meaning of the message.* And just what do I mean by this? I mean that there shall be some appreciable reaction; there must be a turning-in of these literary sensations upon the individual reader. The sensation must not volatilize; it must re-create; it must refer itself back to the reader's view of life and there recognize its contrasts and establish its comparisons. It will stimulate the personal question and generate the personal comment. It will arouse such inquiries as these—Do I believe this? Does my experience support the view? Just what differences are there between the situations described and my own situation on a particular occasion? How would I have acted in such circumstances? May the author's teaching be accepted as universally true?

As teachers we must ever bear in mind the enlargement which this subjective view means. It means that all these images, these pictures in the mind, the sensory impressions—in a word, the imaginative concepts—find their basis in experience. Imagination takes these experiences, enlarges, reduces, readjusts, revamps; and out of the old emerges the new. Oftentimes the spirit of a passage allows us to take a familiar scene—perhaps from our childhood home—and a simple repeopling or recostuming creates the proper effect.

Whether this message comes in the form of story, essay, or poem, the method is the same. The objective message of the writer is interpreted, vivified, and re-formed by the subjective mind of the reader. The struggles of the character are the reader's struggles, and all the victories and the defeats are thus vicariously shared. Sympathy is generated, views of life enlarged, and the reader begins to feel his kinship with the universal heart of mankind.

May I add in conclusion that I assume that it is apparent to all that the comprehension of the objective and the subjective meanings of literature is not in ordinary life distinctly differentiated? Nor is it to be supposed that they would under all conditions be mutually exclusive. It is merely for purposes of analysis and intelligent apperception that we consider them separately. We are to understand that the great province of literature is the interpretation of life. The literary sensation will produce upon each mind which receives it a slightly different percept, depending upon the fabric and the experience of the receiving individuality. And yet the general tone and temperament of human souls have so much in common that there is a wide gamut of general appeal. As we progress from infancy to maturity our tastes and our capacities are in constant evolution. As teachers we must study these changes in our pupils and offer in each progressive period the sort of literary pabulum which will best secure the existing mental grasp and best incite the healthy reach. With growing strength and tenser fiber the mental power expands and the varying emotions find freer expression. The counterplay of life and literature grows more interesting, and each becomes a helpful interpreter of the other. Literature reveals its warnings, its encouragements, its wisdoms, its humors, and its beauties; and life absorbs these to its ultimate growth and good. It is to this great task—this task so rich in possibilities for the pupil's enrichment—that we English teachers have pledged our devotion. Who is there among us that will not be willing to pray the prayer which John Milton prayed in preparation for his great epic:

What in me is dark
Illumine, what is low raise and support?

In teaching literature we shall constantly make earnest endeavor to increase the student's power to perceive the objective meaning of the literary message in order that there may come, coincident with this, a fuller conception of the subjective message. And all this we shall do in the faith that this expansion of intellect and emotion means the constant expansion of character.

C. LATIN

THE ORAL METHOD OF TEACHING LATIN

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The oral method of teaching Latin is, properly considered, not a novelty. Its apparent novelty consists in its application to the present conditions of the study of the classics in our schools. For the oral method has been employed in the teaching of modern languages regularly in our schools for a number of years, and it was employed in the teaching of Latin universally down to a comparatively recent period, say, a century or more ago. The introduction of the oral method in the teaching of Latin and Greek, then, at the present day is, on the one hand, a reversion with certain modifications to a form of teaching prevalent centuries ago, and, on the other hand, it is an adaptation of a form of teaching well known among our modern-language teachers.

The insistence upon a modification of our present system of teaching the classics is loud and widespread. It proceeds, as we all know, from a profound dissatisfaction with the results of our present teaching. In a democracy like ours the appeal must be made ultimately to the majority, and, if they are not convinced, they labor in vain who try only to convince the cultivated classes. Democracy is only just now coming to its own in the field of education. Nowhere has conservatism held its place more stubbornly. Murmurs of the people against the systems of training to which they have been subjected have become seriously effective only in comparatively recent times.

In the minds of the unthinking criticism means immediate reform, and that reform is apt, sometimes, to take the form of obliteration, if it is opposed without due caution. Now the people at large are profoundly convinced of the inefficacy of the training in the classics which has come down to us as the traditional training of a gentleman. Almost everywhere the college graduate up to a quarter of a century ago had studied Latin for from four to six years. Not one in one hundred, when he left college, was convinced of any genuine command of the language, and the utter lack of knowledge of Latin which he displayed in later years was always coupled with the feeling that he was woefully ignorant of it when he left college. We may say that the college student forgets in after-life what he knew on leaving college, of physics, of higher mathematics, of the details of history, etc., and that is true; but, as he looks back upon his college course there was a time when he knew something about these things, and there was a period when he showed a certain facility in his knowledge. Very rarely does a college student show facility in his knowledge of the classics. It is a common thing to hear educated people laugh about their ignorance of Latin, which they once studied. You rarely hear them laugh about their ignorance of the other subjects that they studied. In the defense of our work as teachers of the classics, we have fallen back upon the affirmation that they are of particular importance as mental gymnastics, and to that in our modern times we have added another reason which we maintain with great enthusiasm, the importance of the study of the classics for a proper knowledge of the intricacies of usage of our mother-tongue. The public is not interested in either of these reasons, and is not inclined to accept our ordinary explanations of the lack of attainment of our students in our classes in Latin and Greek. This age is an age which demands results, and, if results are not forthcoming, is apt to visit its indignation not so much upon the teacher as upon the subject, as we have learned to our cost.

What, therefore, people demand is that if the student studies Latin he should gain some genuine knowledge of it; and while some of us may regard that attitude as unjustifiable, it is nevertheless one which we have to face. If such a demand were impossible of fulfillment, then we might lie back and face the worst, but we are not willing to admit that we are unable, with the time at our command, to develop a reading knowledge of Latin; and inasmuch as we have failed to do this according to the old method, thinking teachers are turning their eyes to the lessons of the past, and to the lessons that may be drawn from the experience of their colleagues in the modern field, and so has arisen the advocacy of the oral method, or, as it is sometimes called, the direct method.

The first question that presents itself in this discussion is: By the employment of the oral method, do we mean that we desire to teach our pupils to use Latin in common conversation, as if it were a modern language? Now this question may be answered unhesitatingly in the negative. Latin, in spite of the dreams of some enthusiasts, cannot be made a spoken tongue. What, then, do we mean to do? In brief we lay down this premise, that the prime necessity for ready reading of Latin is ready knowledge of it, its peculiarities of structure, its peculiarities of form, and, furthermore, that this reading knowledge can best be obtained by constant employment on the part of the pupil of the knowledge that he gains *as he gains it.* It must be remembered that, while modern languages are taught now by the oral method, very few of those who study them may be expected to employ them in current speech. Nay, even those students who go on to the higher academic degrees, for which all universities now require a rudimentary knowledge of French and German; even they are not expected, nor do they themselves expect, in the vast majority of cases, ever to speak the language; but the experience of our modern friends shows that the best preparation for reading is the oral use of the tongue, and a proper theory of teaching would declare that what is true with regard to the modern language is true with regard to the ancient.

The literature of Greece and Rome, which has come down to us, is what we want to read, and what we want to teach our pupils to read, with a certain amount of ease. That literature is, with slight exceptions, an elevated literature, and it does not embody the language of the street or the home. There is, therefore, no occasion to employ in Latin, to any great extent at least, even in reading, the language of everyday life. This is an additional reason why in advocating the oral method we do not claim to teach our pupils to speak Latin as an everyday language.

In brief then, when we speak of the oral method we mean the constant employment of that which has been learned, in speaking. What will be spoken, the material of the classroom, will depend very largely, therefore, upon what is being studied at the time, not upon any merely conversational aim.

For reading Latin or any other language, the first thing that the pupil has to learn is forms, the next necessity for reading is vocabulary, and the third is syntax. Of these three, so little syntax is actually needed in the initial stages of study that what is needed may come almost without consideration as a by-product. The main emphasis is to be laid upon forms and words. Forms must be committed to memory, a truism everywhere acknowledged, but the committing to memory of a set of forms involves an amount of waste if along with that acquisition does not go constant practice. It used to be customary to have declension bees and conjugation bees, and pupil was pitted against pupil in the ready giving of detached forms. While there may be some value in that practice, it is very slight, for experience shows that a pupil may be able to give the forms of a paradigm with exactness and still not translate correctly the individual form when he sees it in a sentence. But this is not all. A student who is well drilled in the isolated forms will stumble badly when a number of different forms are associated in a sentence. If we take a simple sentence, like "The father gives to his son a book," we would expect our pupils to translate that sentence into Latin with ease and correctness. Now, as a matter of experience, the number of mistakes that a class of twenty can make in such a sentence, when

every member of the class can inflect every one of the words necessary thruout correctly, is remarkable. I have seen a class of graduate students, with teaching experience, stumble pitifully over such little sentences as that. I have seen a woman of ten years' experience in teaching when asked to render a sentence like "He wished to see his mother," do it in this way; "Volo"—a pause—a reflection—and finally—"vult," "video"—a similar pause for reflection, and finally "videre," and in the same way with the third word. Now that is not knowledge—that is a more or less pitiful make-believe which may readily be remedied if the student has been trained from the start to the difference between forms, as shown by their distinct signs, as distinct from the difference of meaning, as shown by distinct stems.

The oral method says, therefore, that we must not teach forms as mere *tours de force* of memory, nor must we trust to laborious translation of Latin sentences—with perpetual reference to the printed paradigm—but while we have the complete paradigm learned, we must exercise the knowledge continually in actual utterance. Given in the first declension the words *regina*, *rosa*, *puella*, *agricola*, and the verb forms *dat*, *dant*, *dabat*, *dabant*, the teacher will ring the changes as follows: "The queen gives the rose to the girl of the farmer," varying to "queens give roses to the girls of the farmers"; "rose of the girl to the farmer," "girl of the queen"; "to the farmer"; "of the queen," in the plural, etc.; all rapidly, orally, and vivaciously.

The employment of Latin in oral speech in the classroom requires, to be sure, a certain apparatus, particularly interrogative pronouns, such as *quis* and *quid*, *quantum*, *qualis*, *quando*, and the like, and also a certain number of imperative forms, such as *dic*, *narra*, *responde*, a certain number of particles, like *sed*, and *at*, and *igitur*, perhaps; but this apparatus is very small. Practically it can be entirely committed to memory during the first couple of lessons in the first year. It does not require any particular book, that is to say, it can be employed with any book. In the majority of our beginners' books, the reading material in the early lessons is extremely artificial. It is an unfortunate fact that the vocabulary of the first two declensions does not lend itself to the reading and conversation, but in spite of this, by the device of question and answer and with some ingenuity on the part of the teacher, the oral method may be employed with every beginners' book now on the market. Some are better than others, and in fact there have been attempts, in recent years, to provide material for oral practice in many beginners' books in the form of short dialogues or narratives, but in all these books the oral work has been incidental, and the written work and the set recitation have been essential. The oral method reverses this, and makes the oral work essential and the written work incidental.

It is evident from what has been said that a very important side of oral work is the continual rendering of English into Latin. I know that some distinguished scholars maintain that the translation of English into Latin should be deferred for some months until the student has acquired a fairly complete knowledge of simple forms. The oral method denies this, and maintains that the boy who can render quickly at dictation a sentence like "The girl loves the rose," has a better knowledge of the forms involved than the one who can laboriously spell out "Puella rosam amat." In the majority of our beginners' books the exercises for translation have a definitely graded length. We have usually some ten sentences for translation from Latin into English for every lesson, and perhaps half that number of sentences from English into Latin.

Now if the pupil has studied a lesson that contains two or three substantives and the same number of adjectives and verb-forms, the ordinary teacher can, as I have shown above, ring innumerable changes upon these elements and instead of the paltry ten sentences can form thirty or forty, and as the lessons go on, with the increase in vocabulary the number is practically unlimited. There are, however, some books that have been made especially for this kind of work. Here we find the exercises consisting of a short piece of narrative with directions for expansion on the part of the teacher. We have English and German books made after this fashion, and it is likely that we shall soon have American

ones as well. That translation of Latin sentences is valuable is freely admitted, but in the initial stages its value is slight as compared with the translation of English into Latin.

It is evident from what I have said that at the outset very little attention will be paid to syntax. The use of the infinitive mood after a verb of saying, and subjunctives after the particles *ut* and *ne*, and the indicative after a few particles like *ubi* and *postquam* give material, together with the ordinary concords, for an immense amount of practice in verb-forms. The characteristic meaning of the cases, by which I mean the indirect object for the dative case, particularly with verbs of giving and the like, the direct object with the accusative case, the simple objective and partitive genitives, and the ablative of means, manner, separation, and place where, will afford ample material for the most extensive drill in the forms of the noun; in fact, it is quite possible, if it were desirable, to spend the whole of a year on reading which would involve practically no more syntax than what I have mentioned. How this amount of syntax is to be taught is a matter of small moment. If the teacher can do it inductively, there is no objection. Most teachers will probably find it preferable to give it deductively.

In the matter of vocabulary it is necessary to have a strict limitation. The ultimate aim of Latin study, as indicated, would prevent any extensive employment of the colloquial phrases of the street. But even so, the work of the students should be devoted primarily to learning those words that are likely to prove most useful in their reading, by reason of their relative frequency of occurrence; but even with the limited word-list of the first year much can be done, for the study of vocabulary can be combined with rudimentary study in word-formation, and just as a child can make an adverb from an English adjective or an adjective from an English noun, so elementary training in such work in Latin very early in his course, will increase his command of words surprisingly.

The oral method lays very little stress upon home preparation of original work. Reviewing at home is entirely in place, but studying the advance lesson at home is somewhat to be discouraged with ordinary pupils, because in many cases it is ineffective, either on account of assistance rendered to the child or by reason of the incorrect results that we are so familiar with. The translation of passages set for reading in the book should come from the study of the elements from which they are composed, and the home study would be better devoted to this. In some of the European schools a small piece of translation is put on the board, and the meanings of the words being known, or given, the translation is elicited and the class drilled on the material involved in it, the home work being confined almost entirely to reviews.

But here particular objection must be made to the use the vocabularies so commonly provided in our textbooks. The remarks of Professor Rippmann on the bad effects of the use of vocabularies in the case of modern-language study are so thoroly applicable to our own problem that I quote them (*Modern Language Teaching*, IV, 239):

> The worst thing is to let the pupils use a dictionary or a special vocabulary. To look up a word in the dictionary or vocabulary is to get the meaning with the least effort and the least effect. The pupil who has been allowed to acquire the dictionary habit does not stop to see whether he can make out the meaning unaided. He turns the word up at once, and the impression is a slight one, even if he proceeds to write the word down with the meaning beside it. Sometimes there is a little difficulty that remains unsolved by the dictionary; a phrase occurs which cannot be made out by word-for-word translating, but requires a little thought before the right English equivalent is obtained. Many editors do not allow the pupil to do even this for himself; they supply notes which contain renderings ready made. A comparison of such editions and those on reform lines throws an interesting light on the familiar charge that the newer methods are designed to make things unduly easy for the pupil.
>
> Often, when I have advised the abandoning of dictionaries and vocabularies, teachers have asked: "How, then, are the pupils to prepare their work?" My answer is that, generally speaking, home work should be revision and application rather than preparation; that preparation *with* a dictionary has grave disadvantages; and that there are two ways in which a fresh portion of the text can be prepared without a dictionary, both of them educationally sound. The first method is the one which I should recommend for ordinary

use: The teacher glances thru the page or pages he is going to set for preparation, and underlines such words as he knows to be unfamiliar to his pupils; when giving out the home-work, he points out these words and explains them.

Now what I have said of the oral method is applicable particularly to the first year of study. It is there that the foundations of accuracy are laid. It is there that iteration upon iteration is absolutely essential, and it is in the first year, in our ordinary system, that slovenly habits of thinking are so frequently developed. In the subsequent years increasing stress will be laid upon prepared translation outside of the classroom, but at the same time the oral method always lays particular stress upon oral exercises. A favorite exercise of the kind is for the instructor to read before the class a piece of simple narrative in Latin, and quiz the members of the class as to the meaning of the passage, to see whether they comprehend it thoroly. He then requires that the members of the class bring in on the following day the story as they remember it. It is to be observed that here the training of the ear is continued in that the original Latin is understood only thru the ear. Another exercise of a different character is to read a short narrative in English before the class, so that they may have some connected idea of the story, and have them write out the story in Latin. Such exercises as these afford plenty of opportunity for training in syntactical discrimination, for with every exercise special constructions can be required of the pupil. Naturally, if this were not done in the case of many pupils, the written Latin would take the form of a *congeries* of short detached sentences.

Now I have only attempted in the foregoing to give an outline sketch of the main characteristics of the oral or direct method. Perhaps the chief advantage of the method is that it is extremely elastic, and the fact that by reason of the demands that it makes upon the teacher it renders him at the same time practically independent of the textbook. It makes the teacher a teacher indeed, not merely a hearer of recitations, and the interrogator of the lesson learned. It emphasizes the personal relation between teacher and pupil. This very fact makes the method a more exacting one than the ordinary one of question and answer from the pupil, but at the same time its results are so much better that it is worth the additional exertion.

DISCUSSION

John C. Kirtland, Phillips-Exeter Academy, Exeter, N.H.—Professor Lodge's premises I accept without reservation. The prevailing methods of teaching Latin furnish a good example of stereotyped incompetency. They must again be humanized, if the study of the language is to perform its educational function and maintain its high place in our school curriculum. It is difficult, too, to deny the conclusion of our protagonist, fortified as it is by the authority of so acute an observer, so profound a scholar, and by the results of his own experiment in practicing what he preaches. If I presume to offer some opposing arguments, it is only because of my feeling of responsibility as *advocatus diaboli*, for I can present only theoretical considerations.

I take it that, despite the propaganda of Dr. Avellanus, it is scarcely worth while to discuss the question of the practical utility of the conversational use of Latin. In this country we have discarded the teaching even of Latin composition as an end in itself, and restrict this side of our work to purely grammatical exercises. In the case of Latin, the oral, or direct, method rests its claim upon its a-priori validity and its supposed greater effectiveness as a means of learning to understand the written language. If we could put to one side all considerations of expediency, we should be forced to acknowledge this claim. One can never entirely enter into the spirit of a foreign language until he is able to read it without the intermediation of words of his own tongue and the ideas they suggest, and this immediate apprehension is difficult of attainment by one who has begun with careful translation of every word and sentence.

We must reckon, however, with certain hard facts. The most important of these is

that the majority of the students who begin the study of Latin in the United States any given year will not go far enough to learn much Latin, whatever the method. As for those who will study the language four years, I will not venture to express an opinion as to whether they would learn more Latin in that period by the direct method than by the present method, but I do feel sure that they could not be prepared in the former way for college-entrance examinations such as are now set.

Viewed in this aspect, I believe the entrance examinations are sound. With the strongest conviction that they should be a real test of the candidate's mastery of the language, I feel, nevertheless, that this mastery is valuable chiefly for the acquaintance with the laws of language which it involves and for the training in English style which is, in translation, its outward and visible sign. In saying this I have in mind, of course, those who will not carry the study of Latin beyond the school. Now, a strict application of the direct method would mean the disuse of translation and of formal grammar. The student's knowledge of the meaning of the original would be tested by the expressiveness of his reading and his ability to paraphrase or to explain in the language of the original. Grammar would be taught by the inductive method. I believe that we often, in this country, emphasize the wrong things in teaching Latin grammar, or emphasize the right things at a wrong time and in a wrong way, but I should be unwilling to abandon entirely the systematic teaching of the forms and the laws of the language.

I hope I have made my position clear. I do not for one moment suppose that the highest knowledge of a language consists in familiarity with the grammatical categories in which its usages are classified, or that it has any inherent and necessary connection with translation. I am concerned only with the pedagogical problem of teaching Latin with the greatest profit to the American boy or girl who can give to the study only a fraction of from one to four years. Finally, I am apprehensive that the adoption of the direct, oral method would render it still more difficult than it now is to convince the public of the educational advantage of Latin as compared with the modern languages. We should have to surrender the arguments based upon our scientific procedure, the logical and linguistic discipline afforded by the conscious comparison of two languages so dissimilar in their expression of thought as Latin and English, and the training in the use of English which is conceded to be gained from conscious, laborious translation. I shall not try to develop this line of reasoning, but what I mean is this: that we should be substituting for ratiocinative processes the imitative processes of the so-called natural methods of teaching the modern languages.

I have purposely spoken as if the adoption of the direct method would imply rigorous adherence to it thruout the course. Professor Lodge would not go so far, nor is it necessary to go so far; but it has seemed to me likely to be helpful if we should consider how far the method might carry us, and recognize that each step would take us just so much nearer certain things and just so much farther from certain other things. But, as I agree with Professor Lodge in aim, so I agree with him also in placing emphasis upon oral teaching. What I mean by oral teaching is, however, not the direct method. I would have sentences turned from English into Latin off-hand and orally, discussed, and perfected, and only then written out; the constant reading of the Latin text; memorizing of fine passages and sentences illustrative of usage, such as Ovid's line: *Si quis qui quid agam forte requirat erit;* translation of the short sentences of the beginners' book at hearing and without previous preparation. This sort of an oral method I myself employ, and not simply because of the importance of the auricular impression, but because I have found that it is easier in this way to put the stress upon things that are vital and to insure a correct attitude in the preparation of lessons. I am inclined to think, on the other hand, that we have too little careful, deliberate written translation. It is by no means easy to criticize convincingly the form of a halting oral rendering. The student's understanding of the *substance* of the original is perhaps not best discovered in translation. He should be asked frequently

to repeat the description, or narrative, or argument in his own words—but I would have the words English, not Latin. A valuable exercise is the summarizing of a passage of unfamiliar Latin read by the teacher.

NATURAL AND ARTIFICIAL STIMULI IN TEACHING LATIN

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The condition of Latin-teaching at the present time calls for serious reflection on the part of every person interested in the continuance of classical education. No matter how consolatory the statistics as to the number of Latin-students may sound, there are other figures that threaten like the *Mene Tekel* of Belshazzar. Latin occupies the distinguished place at the bottom of the report of the College Entrance Examination Board. Dr. Maxwell of New York in his report for 1909 states that in the number of students Latin has been surpassed by German, and he adds: "Not that Latin holds second place, but that it still does so, is the surprising fact. For the teaching of Latin does the very best in its power to kill all interest in the subject." It is rumored, even, that the New York Board of Education is considering the curtailing of the time given to us Latin-teachers, and we have had occasion to discuss this question in all seriousness with at least one member of the board. There is, too, a noteworthy unrest among the more thoughtful of our brethren. Conflicting proposals are made on every side: reduction of the amount to be read, changes in the authors to be studied, changes of method, all these thoughts are uttered not only in the privacy of Latin clubs, but also in the market-place. Once more Wisdom crieth aloud and, I am afraid, Foolishness crieth still louder.

It is not the purpose of this paper to discuss any of these proposed changes. Some of them, no doubt, are valuable. Others, no doubt, are mere concessions to the cry of the Banausoi. Against these we should set ourselves like the adamantine walls of Erebus. This country is suffering too much, in every field, from the contempt shown to the expert, the so-called theorist, as compared with the much-vaunted practical man. We shall earn the respect of the community by asserting our self-respect. It is *we* who must be listened to when a change is to be made.

But no matter what is done, no teaching has any value unless it appeals to the interest of the student. This must be our pedagogical Alpha and Omega. Many teachers feel this deeply, and many devices have been proposed to stimulate this interest. This paper means to distinguish between *true or natural* and *false or artificial stimulation*.

Natural stimulation here denotes such helps as grow naturally from the subject to be taught or from the method of its presentation, while artificial stimuli are brought in from the outside. A-priori reasoning, based on the principles of psychology, would favor the former. The latter, however, are by far the more showy and therefore, when published, attract much more attention.

We will gather these latter under several heads.

There is, in the first place, the "Milieu Fallacy." This has largely been borrowed from modern-language teaching. In this a great deal is made—and perhaps rightfully so—of plunging the student into the French and German atmosphere. For this purpose, pictures illustrating French or German life are hung on the walls of the classroom, the life of the people is made the subject-matter of instruction, as in *Le tour de France*, or in Pope's *German Composition*, and the whole material is adapted to this purpose. Now, any archæologist will tell you that imitations of ancient works of art can always be recognized by the fact that certain features of the originals are unduly exaggerated. In the same way, our imitators among the Latin and Greek teachers have proceeded. Instead of being satisfied with pictures illustrating phases of ancient life, they have established, where they had the means, Greek and Roman rooms, with all the features of the ancient house, from the mosaic floor to the statues adorning the walls. Here their teaching is supposed to

gain a mystic enlivening from the surroundings. The fallacy in this is the violation of the apperceptive principle. In modern-language teaching it is not the Carolingian or the mediæval France or Germany which is brought home to the pupil, but the manners and the life of his own times, which, while different, still present sufficiently numerous points of contact with the student's own life to be of benefit. To plunge the student, however, into Greek and Roman surroundings is like putting him on Dr. Faustus' cloak and transporting him into absolutely strange countries. Instead of arousing a sustained interest, they bewilder the student, and the fever heat of the first excitement soon passes away, leaving matters where they were at the outset.

The second is the "Building Fallacy," which, being less costly, is more widely spread. Here belong the building of Cæsar's bridge, of Roman houses, and so forth. This is much less dangerous than the first, its deception lying largely in the fact that no self-activity on the part of the student is involved. I am a strong believer in visualization, but it must be a spontaneous process, not urged by the teachers, and not simply carrying out the teacher's suggestions. One of the best cases on record is that of a very successful woman teacher, who, with the expense of much labor and time, has with her students reconstructed a Roman house on a very large scale. The work is admirable, and was very helpful to the students who built it, but—what of the future generations of students? The chief objection to all this activity is the same which lies against much of our science laboratory work, and against a great many of our textbooks that claim to emphasize the inductive or observational method. Instead of learning how to observe, the student is told what and how to observe, a process not at all more valuable, and requiring much more time than the deductive method.

The "Presentation Fallacy" comes next. This is largely concerned with scenic productions, such as presenting on a stage scenes from Roman life, the dramatization of parts of Cicero's speeches, of scenes in the *Aeneid*, and so forth. These have indeed a missionary value, in that they may arouse the interests of the parents of our students. But they are far from doing this for the individuals chiefly concerned, namely, the pupils. On the contrary, they consume too much of their time which is only too limited.

There is lastly the "Roman Commonwealth Fallacy". This, again, is borrowed from those elementary schools which try to foster civic education by establishing a school city. While opinions on this topic seem to be as yet hopelessly divided, I belong to those who see in the experiment a great danger. As it is, the public high school has constantly to fight attempts to do away with its democracy by establishing cliques within the school. The unavoidable rivalry in regard to offices, the heart-pangs of the unsuccessful candidates, the remoteness from the actual life of the community, all these are drawbacks compared with which the slight advantages dwindle into insignificance.

To sum up: all our objections may be condensed into the one sentence: all these attempts are forced and lack spontaneity. Were they a voluntary offering on the part of the student body, they might, within bounds, be acceptable. As it is, however, they are all of them moribund and they demand too large a sacrifice of time and energy.

Neither do they produce the desirable results of Latin-teaching. These I take to be:

1. Sharp and accurate linguistics, with a reflex action upon an improvement in the English style;
2. Appreciation of the literary merit of the reading-matter;
3. Understanding the social and political lessons to be drawn from the study of the authors;
4. Engendering in the student the desire to continue his Latin after the high-school period.

Which, then, are the stimuli in this direction, naturally springing from the subject?

In linguistics, especially during the beginning year, an appeal must be made to self-activity. This may best be done by doing away with the paradigm, having the student form his own examples. We like our own children best, and the student who has, in a few

successive lessons, built up his own *tuba, tubae*, etc., who has found for himself the identity of the personal verb endings, will retain and employ them with greater love and with greater tenacity. Hand in hand with this goes the development of a feeling of power, both productive and critical. This is best achieved by emphasizing co-ordination, as between first and second declensions and conjugations, by making the pupil find, in his work, parallels from the old to the new. Finally there is the stimulus of association and contrast which is implied in the study of word-groups and synonyms, and the finding of cognates and derivatives.

All this demands, not a new textbook, but the cutting-loose from any textbook. I should welcome the day when our beginners' classes shall have placed in their hands merely an exercise book with vocabulary, while all grammatical teaching shall proceed *viva voce* and at the blackboard under the guidance of the teacher.

In literary appreciation the greatest stimulation comes from sight reading. This does not mean reading more than the prescribed texts, but reading these differently. Those are golden rules embodied in the recent report of the Committee on College Entrance Requirements appointed by the American Philological Association. Take each sentence exactly as it stands, and with strict attention to cases, moods, and tenses, have your students translate it. It is only in the rarest cases in my experience—and I have pursued this method for many years—that a student, even if dull-witted, fails to grasp the drift of the thought. Stopping now, let the class give the meaning, at first in their own words, then again as a faithful, yet idiomatic translation. Slow as the process is in the beginning, there is a surprising growth in power, and in a brief time the students come to like the exercise very much. Nor do they receive less grammatical benefit than by the old way. Much of the spirit-killing oral examination on constructions can be dispensed with and the time saved given to the real essentials. Even in classes beginning Cæsar it becomes possible to read the whole assignment for the next day in class. This enables the teacher to assign definitely the new grammatical points to be looked up, thus removing the great objection to Latin, so well illustrated in the story of the man who asked all students in the morning whether they knew their lessons. In mathematics and other subjects the answer was a clear "yes," but in Latin it was a hesitating "I hope so." This method further allows the teacher to make his students see the real nature of Latin word-order as based on principles of thought rather than on arbitrary rules. Take as an example the passage in the second book of Cæsar (chap. 17):

adjuvabat etiam eorum consilium, qui rem deferebant quod Nervii antiquitus, cum equitatu nihil possent—neque enim ad hoc tempus ei rei student, sed quicquid possunt pedestribus valent copiis—quo facilius finitimorum equitatum, si praedandi causa ad eos venissent, impedirent, teneris arboribus incisis atque inflexis crebrisque in latitudinem ramis enatis et rubis sentibusque interjectis effecerant ut instar muri hae saepes munimentum praeberent, quo non modo non intrari sed ne perspici quidem posset,

and after following it closely have the student show you how logically each subsequent statement grows out of the preceding one—and you will notice the eager interest with which the class undertakes and grasps this analysis.

There is, furthermore, the stimulus most persistently advocated by Professor Lodge. The attention of the student ought to be directed toward the pictures and episodes in which the three authors abound. I instance only the battle with the Nervii, with its climaxes and anticlimaxes, the undaunted general appearing every time, like the *deus ex machina*, when affairs seem to be most hopeless, or the delicious picture of the *delicati* in the second Catiline, or the races in the *Aeneid*. The teacher who fails to have his class feel this falls far short of doing his duty toward his class.

For years, now, editors and critics have been harping on the necessity of drawing parallels from modern literature. Here, however, I believe a decided reform to be necessary. Nobody can value more highly than I do the efforts of Professors Kittredge and Mustard in this field. Yet I consider their work inapplicable to the classroom, for the

reason that our students lack, for the most part, the apperceptive basis; for their acquaintance with Milton, Dryden, Pope, Herrick is practically *nil*. Nor do I think they would much benefit by these verbal parallels. The comparisons that ought to be drawn are of content, not of form, and even where they advert to the latter, they ought to bring out the difference in the modern treatment, not the mere verbal dependence. A much clearer appreciation of the Catiline speeches may be gained from showing how evidence is relied on in modern forensic speeches. The Volusenus episode in Cæsar may be brought home by showing the treatment of similar topics by Kipling.

Lastly, one of the most important stimuli in arousing literary appreciation is the effort at model translation. Here, too, self-activity is to be incited rather than mere receptivity from the study of existing works. I remember with great pleasure the work of a senior class in Greek under one of the most successful teachers I have ever known, work which resulted in a complete metrical rendering of *Iliad I* by the combined efforts of the class. Hours taken from the mere mechanism of reciting for this kind of work are most fruitful.

I need the less to dwell on the lessons to be learned from the study of antiquity, as I have years ago expressed myself to some length on this topic (*Latin Leaflet I*), and as this point is beginning to find attention from an ever-widening circle of teachers. The only caution required here is tact coupled with fearlessness. Students are only too eager to find parallels to Cæsar, Cicero, and Virgil in the events of their own community, and it requires a gentle but firm restraint on the part of the teacher to keep them from hasty conclusions. Nothing can stand the instructor in better stead in this particular than a thoro training in the methods of historical research, and I can but again voice my regret at the ever-widening breach between classicists and historians in secondary education. But even if we cannot persuade our colleagues in the history department to allow us to teach some history, we can borrow from them a leaf in adopting their method of collateral reading and reports. The boy who has read some chapters from Boissier's *Cicero* will have a better understanding of the relations between Cæsar and the orator, and Baring-Gould's *Cæsars* will furnish him with a truer key to the understanding of Virgil's aims than all lectures and introductions can do.

Lastly, all of the work on the part of the teacher has gone for naught, if it does not result in the mature fruit of the desire to read more widely than the limited range of high-school literature. Here we fall most frequently short of our own ideals. Even the best among our pupils leave us with a sigh of relief, and were it not for the compulsory Latin of the freshman year in college, they would never again open a Latin book. And yet it should be our greatest pride to have our students return to us in later years with the statement that they have continued their pursuit of Latin beyond what was demanded. I know it can be done: in the first place, the teacher must be an enthusiastic specialist in his subject, not merely looking upon it as the cow that furnishes him with a livelihood. In the second place, our students must leave us not with knowledge, but with power. The teacher who has given his class the ability to tackle any Latin text with the help of a vocabulary is sure to have engendered in their hearts the desire to make use of this power, even if it should manifest itself only in a few chosen breasts. So that this is the sum-total of all our requirements: be widely read yourself, and your pupils will be widely read and appreciative disciples of their masters.

DISCUSSION

J. E. Barss, Hotchkiss School, Lakeville, Conn.—The fallacies cited by Dr. Riess all have the same origin the confusion of means with ends. Devices which may attract a pupil's attention, but which do not further stimulate interest, are useless. Any subject is interesting in the hands of an interesting teacher. Our problem is how to be interesting men and women. One immediate way of making Latin interesting is to show pupils the

enormous debt English owes to Latin, and that no one can possibly be a master of English who does not know Latin and Greek. Then grammar has its dramatic side. Sketch for your class, as roughly as you please, a football game. The boy kicking the ball represents the nominative case; the ball itself, the accusative of the direct object; the goal toward which it travels, the accusative with *ad;* the other goal, a separative ablative; the crowd of excited spectators, the dative—the case of the interested looker on.

William F. Abbot, Classical High School, Worcester, Mass.—I shall confine my remarks to natural stimuli, as I have had practically no experience with the artificial. My feeling in regard to the latter has been one of distrust, due to the inability to see how the time which is absolutely needed for the mastery of essentials can be increased so as to include interesting but non-essential details.

The strongest stimulus, it seems to me, in arousing interest in a subject, is the feeling that the knowledge of it is worth while. This insures a desire on the pupil's part to study faithfully. This interest a teacher can arouse by showing how important a part Latin has played in the development of our modern civilization, and how necessary is an acquaintance with it for anyone who desires to be well trained in modern life.

Another stimulus is the growing sense of mastery over a new and difficult language, which a pupil gains under skillful guidance. This is a very strong incentive in arousing an interest in his work. Ability to do something well naturally tends to create a fondness for doing that something. In order to enable a class to acquire this feeling of power the teacher must himself feel the value of what is taught and show a deep interest in the subject. Hence he must read widely in various authors and be himself a thoro student of many details of his subject, which he can never expect to use in his class except in the most incidental way.

From observation of my own classes, I believe that one reason for pupils' lack of interest in Latin has been the narrow range of the curriculum allowed by college requirements. Therefore I welcome most heartily the recent proposed enlargement of the Latin course laid down for the secondary schools. My hope is that the results will be so successful that the list of authors will be still further extended. The result of narrowly defined amounts of Cæsar, Cicero, and Virgil has been to lead the teacher into ruts and thereby deaden his interest in what is taught. The inevitable outcome has been a corresponding lack of interest on the part of the pupil.

In the senior year of the school with which I am connected it is customary to review the chief points of Latin grammar. I frequently discover that pupils have been using words unintelligently. For instance, take the familiar rule of the agreement of a finite verb with its subject. I have never yet found a class in which the pupils were not puzzled by the question, "Why called finite?" The stimulus supplied by an understanding of the technical terms used, I consider an essential and necessary one; yet in this respect classes regularly show a serious deficiency.

To the ordinary pupil the Romans appear a remote and strange people. Any method of instruction which will convince him that the Romans were just as wide-awake and alive as he is himself will stimulate his interest. One method of accomplishing this is by frequent comparisons, suggested by the text read, between ancient and modern customs. For example, what high-school pupil who has attended the track games of his school will fail to note, when he reads in the fifth *Aeneid*, "Ipse omnem longo decedere circo infusum populum et campos iubet esse patentis," that the throngs of ancient and modern times are alike in their eagerness to crowd in upon the contestants?

Another stimulus which is useful in kindling the enthusiasm of a class is the oral reading of some anecdote, sentence by sentence, to be interpreted sometimes individually, sometimes by the class collectively. The only trouble with this method is the eagerness of the quicker members of the class to give their renderings before the slower ones have comprehended the meaning. This can be obviated at the expense of some loss of time by

telling the class to write their translations, several of which can be read aloud when the Latin reading has been finished.

In conclusion I would say that I heartily agree with Dr. Riess's excellent presentation of the subject. I believe that the aim of secondary-school instruction in Latin is a thoro grounding of the pupil in the etymology and common constructions. This must be supplemented by a usable vocabulary, based upon the elementary meanings of words and aided by training in the process of deriving from these meanings the best English equivalents suited to the passage studied. All stimuli tending to help this aim are natural and useful. Such other stimuli as may be brought in without lessening the attainment of the main purpose of the study are of course permissible. I should, however, consider that a pupil who could not translate into fair English with substantial accuracy a piece of ordinary Latin previously unseen had failed to gain the desired result of his study, and that this failure could not be counterbalanced by any amount of knowledge acquired from artificial stimuli.

Miss Helen H. Tanzer, Normal College, New York City, N.Y.—While I agree heartily, as everyone must, with what has been said about the ends to be attained in the teaching of Latin, I am particularly concerned with what has been said about the so-called "artificial stimuli." Why, for instance, is there no self-activity on the part of students in constructing buildings to illustrate their study of the classics? My own experience would lead me to different conclusions. My experiments in these directions have been made with college students, but the principle is the same, tho not perhaps the application.

The first building that I was responsible for was done three years ago when about ten students, without receiving any academic credit whatever for their work, built a reconstruction of the Roman Forum at about 100 A.D. In preparation for the actual building they made themselves familiar with the history of the Forum in every detail, and gave only their spare time to such work.

The second of these experiments was the building of a Roman house the year after by some students who were taking a course of lectures on the private life of the Romans, and who chose that form of work instead of writing the long paper required of the other members of the class. Their manual labor was preceded by a carefully written report of what it was necessary for them to know about the house.

In both cases the students gave a great deal of their private leisure to the reports and to the work and seemed to derive enjoyment and amusement from it. Both models have been used with subsequent classes of students in antiquities and in language. The students of Cicero's *Orations* seemed to be interested in the model of the Forum.

My third attempt was of a different nature, but would probably also come under the classification of artificial stimuli, so called. This winter about thirty students made Roman costumes and used them in giving a presentation of a Roman marriage.

I have brought photographs of these three attempts, which I shall be glad to show to anyone interested.

In all of this work the students concerned have seemed to me to have learned a great deal more about the matter in hand than I could have required them to do, and to have enjoyed the work itself; while the results of their labors are on exhibition as a proof that they have accomplished something in spite of their enjoyment. If it must still be thought of as artificial and unspontaneous, then I do not understand those terms. I do not see, for instance, how the boy who reads Boissier at the suggestion of his teacher is any more spontaneous in his actions. On the contrary, the reverse would seem to me to be the case.

D. MATHEMATICS

WHY DO WE STUDY MATHEMATICS: A PHILOSOPHICAL AND HISTORICAL RETROSPECT

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MATHEMATICS AN ECONOMIZATION OF THOUGHT

The most salient practical feature of all scientific thought is its economic or labor-saving purpose. The laws of physics, of astronomy, of geology, etc., are, on their practical side, mere shorthand or rather short-mind formulae or rules for recovering, with a minimum of mental labor, by means of little brains and the mechanical manipulations of a pencil, the past and future facts of nature, which, without these rules and laws, we should have indefinite labor and take indefinite time in recovering. Such are the so-called physical laws of refraction and of falling bodies, the prediction of eclipses, etc.; millions of cases reduced to a single case; all a saving of intellectual labor.[1]

But this economy of mental effort is most conspicuous in mathematics. Memorized addition-results save not only friction of aboriginal fingers and toes, but save also brain-strain—an economy still further heightened and typified by the modern adding-machines. The multiplication table, the Arabic decimal machinery, determinants, integration are all thought-saving devices. But pre-eminent among all these economic mechanizations of human thinking are the tables of logarithms, products, powers, roots, etc., in which the mathematical labors of generations have been capitalized and amassed for all time.

In this view the development of mathematics becomes a continuously progressive abstract economization and petrifaction of quantitative thought, a permanent crystallization of quantitative architectonic thinking, a standardizing of the machinery of the mind, which reaches the pinnacle of its refinement in the shorthand symbolism, or, as I prefer to call it, the short-mind or stenophrenic[2] (as distinguished from stenographic) symbolism of algebraic analysis. Algebra, in this view, to quote the lucid words of an old editor of Euclid, is that "paradise of the mind, where it may enjoy the fruits of all its former labors, without the fatigue of thinking." It is the essential, paradoxical purpose of mathematics, in this conception, to get rid of thinking by very dint of thinking.

This is the purely intellectual side. But this economization of mental and manual labor can be even more palpably traced in the domain of applied mathematics, in engineering, surveying, navigation, and the rest.

PEDAGOGIC IMPLICATIONS OF THIS VIEW

Now what is the lesson of all this? I see in it two things. First, we have, in this process, in its purest and simplest form, the original and primordial type of all human intellectual activity, the incarnate essence of all human mental striving, which is intense economization, and progressive concentration of mental effort. The student who has gained this point of view, by contact with mathematical and especially algebraic study, acquires from it a sense of intellectual power and discipline, which can be brought home to him with equal force by the study of no other branch of knowledge, and draws from it an æsthetic inspiration that heightens his whole spiritual life. There is a moral sense of enlightenment in it that courts comparison with that of any other discipline; and I take it that this is a view which, for its practical educational value, has not yet received proper emphasis in pedagogical theory.

And the second lesson is, that this view, on its ultra-practical side, connects our so-called formal theoretical study by a living link with our material industrial civiliza-

[1] See the works of Ernst Mach, Chicago. The Open Court Publishing Company.

[2] From στενός, *short*, and φρήν, φρενός, *mind*.

tion, which sees the goal of life in the progressive minimization of all human labor and the saving of human resources for higher ends. Both the practical and ethical implications of this view are immediately apparent, and it is gratifying to see its main trend faintly emphasized in some of our recent textbooks.

THE IDEA "PRACTICAL" EXTENDED

"Practical" and "utilitarian" are current words of popular vogue that sadly need clarification and precise definition. Are not some things "practical" and more eminently useful for purely intellectual, ethical, and social purposes than are some other things that find ready and immediate application in the measurement of concrete realities? I think we must seek a deeper meaning for the idea "practical" here. Not one-tenth of the graduates of our high schools ever enter professions in which their algebra and geometry are applied to concrete realities; not one day in three hundred and sixty-five is a high-school graduate called upon to "apply," as it is called, an algebraic or a geometrical proposition. Not one in ten of our high-school students ever retains sufficient mathematical knowledge or skill to solve even a tolerably difficult concrete physical or mensurational problem after graduation. Why then do we teach these subjects, if this alone is the sense of the word "practical"? For abandon them, we are all agreed we should not.

To me the solution of this paradox consists in boldly confronting the dilemma and in saying that our conception of the practical utility of these studies must be readjusted, and that we have frankly to face the truth that the "practical" ends we seek are in a sense *ideal* practical ends, yet such as have after all an eminently utilitarian value in an intellectual sense. What practical profit can a girl, or nine out of ten high-school boys, derive from a year and a half of algebra, unless it is the æsthetic joy and logical culture derived from participation in the upbuilding of a great abstract structure of symbolic quantitative thought, the sharing in the dramatic triumph of a great human intellectual conquest (which I referred to above in my references to mathematics as an economization of human thought), or that invaluable, incalculably important mental and manual drill (which Chrystal has emphasized) in accuracy, neatness, and method that comes from the correct, systematic manipulation of algebraic forms; or, can the same average student derive from geometry, save that magnificent training in logical deductive power, in capacity for intense concentration of the attention, in systematic unerring pursuit of a goal, in intellectual self-restraint, and, last but not least, that intensifying and heightening of the power of precise English expression and English thinking that make mathematics in our schools almost the substitute and the surrogate of a thoro legal training!

Bent as I am personally and naturally to the making of all mathematical instruction practical and applied in its most popular sense, I must say that in summing up to myself the results of my own limited instruction I have always felt that the objects above enumerated have been attained in my classes in tenfold greater degree than have the so-called concrete results I have so ardently sought and wished for, but obtained only in a limited number of individual cases.

We sometimes forget in our inordinate zeal to "practicalize" and popularize education, that our object is also to make men and women as well as engineers and "rope-stretchers," and that the former end is more commonly attained than the latter. Our trouble and indecision arise from the very important psychological truth that it is impossible to weigh and measure psychical and ethical values, and that we have not always necessarily failed when we cannot palpably catalog our results. Education is a subtle process, and withdraws itself from quantitative observation. This is why Plato, with his divine tact, proposed for educated men the game of tit-tat-to with incommensurables, to replace the checkers of the porklings.[1] It is the victory of the platonic over the utilitarian point of view, the victory of Pythagoras of Croton over Mr. Crane of Chicago, and leads us to say with St. Paul that for the purposes of genuine education we ought

[1] Plato, *De Legibus*, vii.

sometimes to "look not at the things which are seen, but at the things which are not seen: for the things which are seen are temporal; but the things which are not seen are eternal." It is these eternal impalpable things, which remain with us all from our study of algebra and geometry, that constitute the sole profit that 90 per cent. of us ever derive from the study of mathematics, and it is this that furnishes the foundation of truth to Emerson's paradoxical saying that "education is what remains to us after everything we have learned at school is forgotten."

USABLE KNOWLEDGE OR POTENTIALIZING KNOWLEDGE?

Let it be admitted that 10 per cent. of our high-school graduates acquire a mathematical knowledge as distinguished from a mathematical culture, and that the graduates of technical schools also possess that knowledge. How long is it retained and how universally is it applied? I personally know many successful engineers, but I know very few who know mathmatics well and who can use it as a powerful auxiliary tool in the solution of new engineering and mechanical problems. Their knowledge of the differential and integral calculus is a faint dream of their collegiate career. They are devotees of elementary methods and rule-of-thumb procedures in the higher domain. A few formulae, a few tables of integrals and collections of mechanical rules and tabluated calculations are their chief stock-in-trade. Their sole pabulum is what I might call "canned" mathematics, using that term in its best and most esoteric sense, and not in its present vulgar and figurative perversion—that capitalized stock of mathematical thought which is preserved in the economy-jars of logarithmic and other tables and in routine formulae, and which constitutes, in this capitalization and economization, a cardinal, essential feature of mathematical intellectual activity. This, ninety-nine out of every hundred engineers will admit. But they will not admit, nevertheless, that they have derived no profit from their mathematical training; that they have not preserved from it that unanalyzable power of thinking and visualizing things mathematically and geometrically and of preconstructing in symbols of thought and pictures of the imagination the projects which afterward it is their business to create in space with physical materials.

Now, what I contend under this point is, that, precisely as the engineer, who is trained for mathematics yet usually cannot and does not use his mathematics, nevertheless derives inestimable benefit and power from his mathematical education, so the average high-school and university graduate, who is never expected to use his mathematical knowledge at all, invariably acquires from his mathematical instruction great moral and intellectual impressions and potential capacities of all sorts which will redound to his power and usefulness in every walk of life. And, in making this a cardinal benefit derived by the masses from mathematical study, I am not slurring, in the slightest, the great material benefits of mathematical knowledge as an auxiliary engine of research, control, and creation in every profession. I merely say that this latter, important as it is, constitutes the *least general* practical acquisition from a mathematical training; while the former makes up, in all cases, some nine-tenths of its value. For, if this were not so, then instruction in secondary mathematics should be limited, as the public would largely limit it, to arithmetic and practical mensuration. And we should thus save at least one year of our time for the pure bread-and-butter studies. For how otherwise could educators justify this economic fact, which I cannot prove statistically but which I believe to be true, that there is more human time and energy spent on writing textbooks of mathematics, even applied mathematics, and on teaching mathematics, than is ever after employed by all the people in the world in applying it to scientific and engineering problems?

PEDAGOGICAL COMPLICATIONS AND ECONOMY OF PRESENTATION

The considerations adduced above lead now to an important practical pedagogical difficulty. We seem to be seeking in our high-school curricula and textbooks to devise

a universal pedagogical machine for the instruction of everybody *en masse* for every possible end—cooks, dressmakers, and scribes, engineers and "rope-stretchers," professional "admirable Crichtons," and Jacks of all intellectual and utilitarian trades. And as a result of this our manuals have become a veritable mathematical polyglot and *Tohu-va-bohu.* A glance at the problems of some recent admirable algebraic and geometrical textbooks will amply show this. They seek, in their problems, to cover the entire universe of applied knowledge, and some additional domains besides. And this is a gratifying and refreshing symptom, growing out of a genuine desire to modernize and vitalize mathematical instruction. But we forget in our new-born practicalizing zeal that all this has been done before; and that the different epochs of the long development of mathematical instruction have shown the same ideal and trend. Each period has had its practical problems, some of them purely intellectual, but, according to my view, still practical. What we now regard in the older textbooks as pure rubbish and antiquated intellectual "survivals" were once mostly real problems. But to show this, interesting as it is, would be to write a history of civilization, for which I have at present not the time. I merely wish to call to your attention the fact that in the past the same striving for modernity and vitalization led, as it will likely lead now, to an almost uncontrollable *embarras des richesses;* and that this superfluity of material forced the old textbook writers, *from sheer considerations of economy*, to adopt the apparently harsh and arid, abstract method of presentation which we now so unanimously condemn, and to formulate general abstract problems for exercise, instead of a multitude of concrete applied problems. For economy of presentation is of the very essence of our science and is as desirable in textbooks from a purely practical point of view as from a theoretic one. It was doubtless this consideration as much as the gibes of the Sophists that led Euclid to the formulation of his *Elements;* and any one who doubts this view has but to compare the beautiful, lucid, and concrete, but interminably prolix, treatises of the great Euler in the eighteenth century with the concise and condensed expositions of the generation that followed him, which we now so cordially anathematize. The pedagogic pendulum swings back and forth by a natural intellectual law. And in less than ten years, I prophesy the same economic need will present itself in our American textbook world.

OLD AND NEW TEXTBOOKS

In respect to textbooks, no other domain can admit of comparison with mathematics. The biological and descriptive sciences, chemistry, and even physics are of relatively modern development, and the present textbooks, syllabi, and schemes of instruction in these sciences are enormously superior to the books and schemes of twenty-five, fifty, or seventy-five years ago, even where these exist; but the mathematics which is now taught in our secondary schools existed, part of it in its fullest development, as geometry, two thousand one hundred years ago. and part of it, in its algebraic development, two hundred years ago. In the years between 1700 and 1800 there were written textbooks of algebra[1] in which our present high-school scholars would find as much satisfaction and from which they would derive as much profit by individual study as from some of the books published within the last ten years. It is a commonplace of educational history that geometry as taught in our schools is, in its didactic form, essentially the geometery of Euclid's *Elements;* and, apart from the supplying of practical motives in teaching, the only advance which has been made in the didactic presentation of the principles of geometry in two thousand years has been, first, the reduction of the verbiage of the old elements and the economizing by the use of concise language and shorthand symbols of the linguistic form in which the propositions were presented and proved; and, secondly, the introduction into the books of practical pedagogical, typographical, and pictorial devices which have heightened the economy of sensual presentation and removed all physical sense-obstacles to the comprehension of the geometrical relations

[1] By Clairaut, Euler, Lagrange, Laplace, *et ceteris*.

—an enormous advance in itself but one of which we should thoroly understand the scope and which we should not overrate—recognizing that it is an advance which we owe nearly as much to the development of the arts of the printer and the illustrator as we do to the ingenuity of the mathematical author.

Our science at least, so far as we are concerned with it as secondary teachers, is not a new and growing science, but received its full development centuries ago; so much so, that one of the greatest mathematicians of the eighteenth century, Lagrange, conscious of the exhaustion to which he was carrying his mathematical analysis, once remarked that it would not be many years before, for the purpose at least of pure inquiry and the discovery of new truth along the old lines, professors of mathematics would be as rare at the universities as professors of Arabic. This fortunate fact should be remembered in all our discussions. No mathematical author is now perplexed with doubts as to the new subject-matter which he should introduce into his textbook, as is the physicist, for example, when he comes to write about ions. This being the fact, our task in both selecting and presenting the mathematical subject-matter in textbooks is limited almost wholly *to removing the sensual physical obstacles to the intellectual comprehension of mathematical truths*. And how magnificently this is being done by color devices, photographs, models, systematic and universal economic notations and designations in both our geometry and algebra textbooks is known to every one.

HISTORY OF THE PRACTICAL MOVEMENT

This beauty, precision, and economy of form which our modern textbooks are taking on, and this supplying of practical motives, have been the outgrowth of a long development, of which the recent concrete practical methods of teaching mathematics are themselves the outcome. The movement is not so new as one would infer from the prefaces to the American and English textbooks of the last fifteen years. The French Revolution gave the first universal impulse to the change, and in the normal and polytechnic schools of Paris over one hundred years ago graphs, for example, were used by the greatest mathematicians of Europe to illustrate the principles of algebra—altho one would think from some recent writers that this device had been the product, if not of their own brains, at least of very recent years.

But the great educational reformers of Germany hastened this process in the elementary schools. Trendelnburg was prominent in attacking the blind deductive form in which the Euclidean geometry was taught in the schools and to ask for a more concrete treatment. Schopenhauer's works are full of onslaughts on the sterile, formal, deductive methods of teaching geometry, among which the one making fun of Euclid's proof of the Pythagorean proposition, which Schopenhauer called the "mouse-trap proof," is the most classical. Studying geometry by Euclid's method, Schopenhauer also said was like cutting off one's legs in order to walk on crutches[1].

But it was the influence of Herbart that did most toward giving geometrical teaching its right bearings, and toward starting the movement which has resulted in the methods of such men as Perry and of scores of other equally effective teachers and schools in our own country whose names do not happen to be known. "This is the ideal that seeks simply to instill into the mind fruitful ideas (ideas which find a congenial soil in the student's existing knowledge and interests) and which, from a firm belief in the fertility of ideas has emphasized the value of geometrical knowledge as opposed to the study of logical form. Let the boy," it says,[2] "be thoroly at home with a new fact or property before he begins to apply formal logic to it. To attain this familiarity, do not reject at any stage the help of [physics, mechanics, and] experiment, and the recourse to common objects and experience. Geometrical experiment may use models, frameworks, machines; but there is a limit to the amount of apparatus that is convenient. We rely, therefore,

[1] Wel als Wille u. Vorstellung, I, 1, 16.

[2] The *Mathamatical Gazette* London, March 1910

in the main upon figures; freehand sketches, where a sketch will reveal the fact that we are looking for; accurate figures, where eye and hand alone are not clever enough. Hence the amalgamation of geometrical drawing with geometrical theory, subjects once divorced, to the great loss of both."

THE HUMAN BRAIN ITSELF A MATHEMATICAL LABORATORY

I will stop here a moment to consider how far experiment, physical illustrations, and models may be carried in the teaching of geometry. This tendency has been generally exaggerated and overdone in some of our recent literature. I have seen in recent current American educational magazines several suggestions for the physical illustration of theorems of algebra and geometry which remind one of the proverbial procedure of using a steam-hammer to crack a nut—procedures which are altogether unnecessary and a sheer waste of time. Practical and laboratory methods in mathematics and mechanics have their limited sphere of application; for it should be considered in this connection, and with special regard to our own science, that the human brain for our purpose is itself a storehouse and laboratory of formal thought, where nearly all the experiences are collected that are needed for experiments in algebra and geometry, and which can be here conducted with far more dispatch and ease than in a special laboratory with levers and scale-pans. The human body and brain are a microcosm, a compact bundle of well-ordered space and mechanical experiences, which are always ready at hand. The chalk and the blackboard in our science are mightier than all the tin-can junketry of the physical laboratory.

CONCLUSION

All the varying arguments, all the contradictory points of view above intimated, all this emphasis now of one side and now of the other side of the value of the methods of mathematical studies, are due to a lack of historical and philosophical comprehension. In its origin, mathematics was developed largely as an instrument for physical or mensurational research. After it was developed, and the logical, genetic interdependence of its truths and results was discovered, it became naturally an object of independent development in itself, and assumed necessarily an artificial, logical, and purely conceptual character. It created a professional caste, like the grammarians of India which cultivated it for its own sake; it became an end in itself; it was systematized, its principles economized and minimized, and its entire body of truth transformed and etherealized into a shadowy framework of pure logical forms; it lost its foothold in reality and in the empirical soil from which it had sprung, and became barren and sterile; it ceased to produce fruitful and creative investigators, and was ultimately rejected in this form by practical minds. Hence the contradictory opinions and utterances on the value of the two phases of its development as an educational discipline; and hence the varying hyperemphasis that the one or the other aspect of it receives, according to the changing needs and ideals of each historical epoch. The truth, to which we must hold, lies in neither; it must be sought in an amalgamation of the two; mathematics arose from a physical, empirical soil; it reverts in its applications to that soil; but in the transition it has passed thru a purely intellectual domain, in which it has suffered a transformation that is of its very essence. And the study of its subject-matter, its logical and genetic development in this transformation, is just as important an educational discipline for the intellectual needs of life as the study of its applications is for the material needs of life. And the former are, I think, more easily and more frequ:ntly obtained in practice than the latter.

THE PRACTICAL LIMITATIONS OF AN IDEAL COURSE IN SECONDARY MATHEMATICS, AND THE EDUCATIONAL WASTE OR ECONOMY IN THE PROPOSED SEQUENCE OF STUDIES

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(Synopsis)

The aim of secondary education is twofold—the acquisition of knowledge and the cultivation of intellectual activity. The former, however, should be regarded as subordinate to the latter. This, together with the principles of genetic education, should be basic in the setting of a course in mathematics.

Primal consideration should be given to the importance of mathematical training in developing vigorous, varied, and protracted mental activity. As a tool in the activities of the everyday life it is invaluable and hence its presentation must be so arranged as to combine the two aspects of utility.

The method of presentation must at all times meet the requirements of mental assimilation. It is for the teacher to judge as to the ability of his pupils to grasp the significance of a rigorous proof and his success is dependent upon the manner by which he shapes his course to meet these conditions. The arguments frequently given that lack of logical rigor in the proofs given in these courses destroys their value are to my mind very much over-estimated.

Unification of subject-matter and mastery of methods are the foundations of an ideal course in secondary mathematics. Algebra and geometry should be so taught that either can be used to illustrate and fix in the mind the principles of the other; to this same end physics and trigonometry should be taught as correlative topics.

Subconscious use of mathematical terms leading up to the formulation of a mathematical language, thus developing the power to think mathematically, comprehends the requirements of successful teaching in secondary mathematics.

PRELIMINARY REPORT OF THE "NATIONAL GEOMETRY SYLLABUS COMMITTEE" AND ITS PRACTICAL PEDAGOGICAL IMPLICATIONS

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HISTORICAL RETROSPECT

First tendencies toward standard.— It may not be out of place, by way of introduction, to trace the connection between the work of this committee and similar efforts in the past. This historical retrospect must necessarily be very brief.

The National Education Association, so far as I know, was the first body of teachers in this country that recognized the importance of national standards in education. Ever since its organization, in 1857, it has powerfully affected the educational activities of the country. Much of this influence was due to the efficient work of its committees. The first National Education Association document that attracted world-wide attention was the now celebrated *Report of the Committee of Ten on Secondary-School Studies* (published separately by the American Book Co., 1894). The Committee of Ten was appointed at the meeting of 1892. Under the chairmanship of President Eliot it organized so-called conferences on all high-school subjects. The mathematical conference was in charge of a subcommittee of ten, Professor Simon Newcomb of Johns Hopkins being the chairman. Of other distinguished members I will name Professor Byerly, Professor Cajori, Professor Fine, and Professor Olds. It is significant that only two public high schools were represented on the committee. The final report was a result of a conference lasting three days, held at Cambridge, Mass., December, 1892. A number of conclusions reached by these gentlemen were very important and at once influenced mathematical teaching. The committee recommended an introductory course in concrete geome-

try, begun at the age of ten, and lasting at least three years. It emphasized especially the necessity of much more oral work, and called attention to the function of original problems in demonstrative geometry. It declared that "geometry cannot be mastered by reading the demonstrations of a textbook." However, the report had nothing to say about a uniform system of propositions.

In 1899, the Committee on College Entrance Requirements, after four years of careful investigation, presented its famous report. In mathematics its recommendations were practically an agreement with those of the Committee of Ten, but gave more attention to the mathematical curriculum. Incorporated in the main report was the supplementary report, submitted by the Chicago section of the American Mathematical Society.

The latter document was prepared by a committee of ten, only two being high-school teachers. Professor J. W. A. Young was the chairman. Excellent pedagogic suggestions were offered, and the importance of concrete geometry and of a preliminary course in demonstrative geometry were again pointed out. The reports of 1899 are epoch-making also in that we are offered for the first time a clear recognition of the desirability of a six-year curriculum. (See *Proceedings*, 1899, pp. 659, 700, 701.)

It will be seen that in all these reports there is no thought whatever of a national geometry syllabus. That idea was advanced for the first time, so far as I know, by Mr. George W. Evans, of Boston, at the meeting of 1901. The *Proceedings* say that Professor Evans, of Boston, suggested "that a carefully selected collection of propositions would be of great value to teachers and students of geometry, as furnishing a common basis of reference and a syllabus that may be used in examinations for admission to college." He advocated the appointment of a committee to take the matter in hand. The motion was carried and a committee of eight high-school teachers was appointed. As the subsequent volumes have nothing to say concerning this committee, we must assume that it died a premature death.

In 1903 Professor Tyler, of Boston, presented a brief preliminary report of the American Mathematical Society, on college-entrance requirements. The passage referring to plane geometry contains *three* sentences.

First syllabi.—In 1904 Mr. Evans, not discouraged by the failure of this first committee, found a more auspicious soil for his efforts in the newly organized Association of Mathematical Teachers in New England. In that year, at its Boston meeting, the association voted: "That a committee be appointed by the chair to consider recommending the approval by the association of a syllabus of geometry now in existence, or to draw up a syllabus, and that this committee confer with organizations similar to this one and report at the next meeting." A committee of six was appointed, with Mr. Evans as chairman. Three of its members were high-school men. The desired syllabus was finally prepared, after a series of sixteen meetings and much preliminary correspondence. An attempt was made to secure the co-operation of other associations. The list of propositions in this syllabus is very complete. Logical sequence is intentionally ignored; but the topical plan is retained. Besides, there are a few suggestions to teachers.

Evidently the New England syllabus did not become generally known, a fact much to be regretted. Two years later, in December, 1906, a Syllabus Committee of four, appointed by the Central Association of Science and Mathematics Teachers, presented a preliminary report. This report gained wide circulation. It contained brief discussions of a number of mooted topics, such as terminology, indefinables, assumptions, pedagogy. It indorsed the careful study of a much smaller number of propositions. The list of theorems submitted was very condensed. I cannot help feeling that the general excellence of this report is marred by a number of unfortunate contradictions. In one sentence, for example, hypothetical constructions are indorsed, for it is recommended that "no demonstration be deemed invalid because of assuming the possibility of constructing the figure used." The very next sentence says: "In the first theorems involving

superposition the actual construction should be followed instead of appealing to the imagination." One paragraph advocates the experimental verification of certain mensurational facts, and the very next paragraph tells us that "the treatment of mensuration in most texts is extremely unfortunate," the demands of rigor not being met. On the one hand the pupil is not to be confused with subtleties, and on the other he is expected "to verify by observation and experiment and to record in a notebook" such astounding "assumptions" as this, "A sect has one and only one mid-point." Let it be conceded, of course, that the harmonizing of the liberalism of a Perry and of the rigor of a Hilbert is the very difficulty confronting the geometry teachers.

In concluding this historical summary, we can safely say that at present no syllabus thus far published has secured anything approximating national significance. This applies also to the Harvard syllabus. It seems to me that the reasons for this result were the following:

1. The membership of the committees was too small.
2. The reports were too one-sided.
3. High schools and colleges were not represented in equal numbers.

The National Geometry Syllabus Committee.—Two years ago, at the Cleveland meeting of the National Education Association, it was my privilege to read a paper on the teaching of geometry. Realizing the insufficiency of existing syllabi, I recommended the appointment of a National Geometry Syllabus Committee, and outlined a plan of procedure. Professor H. E. Slaught was authorized by the Mathematics Section to organize such a committee.

Lack of permanence of organization, and therefore of right to appropriate money, on the part of the sections temporarily stopped the work, altho Dr. Slaught continued to canvass the country for representative men to form the committee. At the Baltimore meeting of the American Federation of Teachers of the Mathematical and the Natural Sciences, in December, 1908, Mr. E. R. Smith, as the representative of the Middle States and Maryland Association, presented the matter to the federation, and urged the continuance of the work apparently dropped by the National Education Association. The federation at once adopted the scheme, accepted Dr. Slaught as chairman, and to avoid losing the work already done by him, asked him to nominate to the Executive Committee the teachers he thought should be on the committee. Soon afterwards the National Education Association again took up the matter, and as a result a joint committee of fifteen was appointed. This committee was then divided by the chairman into three subcommittees.[1]

PRELIMINARY REPORT OF GEOMETRY SYLLABUS COMMITTEE

Having brought the history of this movement up to the present year I shall submit a very brief outline of the work done by the committee thus far. I am authorized to present, first of all, the following report of the chairman, Professor H. E. Slaught.

CHICAGO, June 23, 1910

To the Mathematics Section of the Secondary Division of the National Education Association:

Your Committee on a Syllabus in Geometry presents the following report on the organization and progress of the work entrusted to it:

Immediately after the joint authorization of this committee [explained above] an extended correspondence was begun looking toward the selection of the members so as to fairly represent the various sections of the country, and the chief educational interests with respect to the teaching of geometry. This canvass resulted in the selection of the following fifteen members of the committee, seven from colleges or universities, and eight representing secondary schools:

H. E. Slaught, Chairman, The University of Chicago; C. L. Bouton, Harvard University; F. Cajori, The University of Colorado; H. E. Hawkes, Yale University; E. R. Hedrick, The University of Missouri; H. L. Rietz, The University of Illinois; D. E. Smith, Columbia University; William Betz, East High School Rochester, N.Y.; E. L. Brown, North High School, Denver, Colo.; William Fuller, Mechanic Arts High School, Boston, Mass.; W. W. Hart, Shortridge High School, Indianapolis, Ind.; F. E. Newton,

[1] See the *Mathematics Teacher*, June, 1910.

Phillips Academy, Andover, Mass.; E. R. Smith, Brooklyn Polytechnic Institute, Brooklyn, N.Y.; Mabel Sykes, South Chicago High School, Chicago, Ill,; R. L. Short, Technical High School, Cleveland, Ohio.

Early last summer a preliminary organization of the committee was effected, and each member contributed in writing a statement of the situation with respect to geometry in the school as it appeared to him, together with whatever suggestions he desired to make, either as to methods of procedure, reforms to be proposed, purposes in view, results desired, and so forth. These were manifolded in July of last year and complete copies placed in the hands of all the members, together with a résumé of what seemed to be the salient features gathered from all these preliminary suggestions. In this way each member was fully informed of the point of view of each of the others, and all were thus prepared to undertake the work with a full understanding of the situation so far as the members of the committee had analyzed it up to that time.

It was then proposed that the committee resolve itself into three subcommittees of five members each to address themselves respectively to the following phases of the work:

1. *Logical considerations*, including axioms, definitions, symbols, new terms, forms of proof, treatment of limits and incommensurables, purposes whether formal or practical, place in a curriculum, etc.

2. *Lists of basal theorems*, including types of courses as given in various countries types of courses for different classes of students, for non-college preparation, minimum list of theorems for various standard courses, grouping or classifications of theorems, etc.

3. *Exercises and applications*, including the grading and distribution of exercises, relative importance of algebraic and geometric work, special classes of exercises such as loci problems, correlation with other subjects, such as trigonometry, concrete applications related to drawing, decoration, architecture, ornamental design, mensuration, surveying, machinery, etc., etc.

The membership of these sub-committees is as follows: On Logical Considerations, D. E. Smith, chairman, William Betz, C. L. Bouton, E. R. Smith, William Fuller. On Lists of Theorems, E. R. Hedrick, chairman, W. W. Hart, E. L. Brown, F. Cajori, H. E. Hawkes. On Exercises and Applications, H. L. Rietz, chairman, R. L. Short, F. E. Newton, Mabel Sykes, H. E. Slaught.

These subcommittees have been organized and have worked during the past two years, and extensive investigations have already been made in preliminary form. It is proposed to carry on the work of the subcommittees to as great a degree of completion as possible and then to bring the report of their work before the committee as a whole for full consideration, discussion, and action. Not less than a year longer will be required to bring the work to completion,

In the meantime, the committee finds itself hampered by lack of funds for the prosecution of the work. So far the expenses have been met, for the most part, by the personal contributions of the members. But soon the cost of manifolding preliminary reports will increase, and later the printing of the final report will demand consideration. It would be well if the committee might know at this time approximately to what extent the National Education Association will back it up in the cost of prosecuting the work.

Respectfully submitted,

H. E. Slaught, *Chairman*

A preliminary report of Subcommittee One was published in the June, 1910, number of the *Mathematics Teacher*. A persistent effort was made to embody a sanely conservative point of view, and yet to open the doors to progress.

Subcommittee Two, thru its chairman, Professor E. R. Hedrick, has forwarded to me a very interesting partial statement of its work. As the document is very voluminous, it cannot be given *in toto*. It embodies a bibliography on the teaching of geometry, and a history of attempted revisions of geometry. Being prepared by the authoritative pen of Professor Cajori, this part of the report will be of extreme value to American teachers.

PRACTICAL PEDAGOGICAL IMPLICATIONS

Ever since we gave up Euclid as a standard, we have had a great many widely diverging geometric texts. The field of geometric relations is, of course, infinite, and the entry into that field can be made in more ways than one. This subjective tendency is not in itself alarming. The teacher is embarassed by it only because there has not been

a corresponding liberality in examination requirements. Uniform examinations, such as those given by the Regents of New York State, or by the College Entrance Examination Board, imply some agreement as to the essentials of a subject. This uniformity is only vaguely defined in the college catalogs, by the statement, "as much as is contained in the better textbooks." The textbooks on the other hand have based their conception of the essentials on the college-entrance examinations. So we are going around in a vicious circle. If your committee succeeds in turning out a satisfactory syllabus, the practical results ought to be a complete remedy of many of these difficulties.

1. *Examinations.*—The syllabus should furnish a national standard for geometry examinations. It is prepared by representatives of leading colleges and high schools. Moreover, the present committee may be said to embody the cumulative efforts of eighteen years of continuous development, since Professor Cajori belonged to the original Committee of Ten and Professor Bouton helped to frame the New England Syllabus. Hence, I earnestly bespeak the support of all the examining bodies concerned.

2. *Uniformity vs. Freedom.*—I know that most of us have a justifiable horror of uniformity. But let us remember that a little more uniformity is better than the prevailing chaos of texts and examinations. The work of this committee will in no way even remotely affect the freedom of the teacher. I wish to make this point very emphatic. The committee does not expect to lay down a logical sequence of propositions, thus leaving it to authors and teachers to make their own approach. It *does* wish to give a list of basal theorems, together with suggestions on maximum and minimum courses. Thus the teacher—if this syllabus should become generally accepted—will know exactly what ground is to be covered, without being hampered as to method.

3. *Time.*—The committee will recommend that one and one-half years be devoted to plane geometry, in which time also a few facts from solid geometry and trigonometry should be incorporated.

Schools all over the country are getting ready for a six-year curriculum. Many of our difficulties are due to lack of time. It is well known that the number of geometry students is less than half that of the algebra students, and yet the percentage of failures is from 40 to 50 per cent. and it is usually higher than in algebra. This shows that we need more time. The extension of time recommended by the committee, together with the greater definiteness provided by the syllabus, will at once react favorably on the results of our teaching.

4. *Applications.*—The question of real applications is very central at present. The committee hopes to be of great service to the teachers by summarizing all that has been done in that direction up to date.

5. *Disputed points.*—The report embodies a brief discussion of such matters as indefinables, axioms, new symbols. In regard to incommensurables and limits, it will undoubtedly indorse the present tendency of making these topics entirely optional.

6. *Pedagogy.*—The report will refrain from orthodox prescriptions of method. It will contain valuable bibliographies and references and will help to harmonize antagonistic tendencies.

APPLIED PROBLEMS

WM. E. BRECKENRIDGE, HEAD OF THE DEPARTMENT OF MATHEMATICS, STUYVESANT HIGH SCHOOL, NEW YORK CITY, N.Y.

The most urgent question before the mathematics teachers of today is, What mathematics is practical? All over the country our courses are being attacked and the demand for revision is along the line of fitting the mathematical teaching to the needs of the masses of pupils. No longer can we be satisfied with meeting the requirements of colleges and contend that what is best for the boy who is going to college is best for the boy who does not go. Rather, the tendency is to revolt from college dictation in matters of curriculum

and demand that the 90 per cent. who do not go to college be given that training in mathematics which will best fit them for efficient service. The truth of the matter was well stated by Dr. Draper in an address to the graduates of New York University when he said, "Of course every fond mother in our country expects her son to be president, but let us give him such a training that in case he misses the presidency he can at least earn a living and not become a charge on the state." In New York City committees have been working during the last year revising the course of study. They have revised the course in several subjects of which physics is one. The time is close at hand when mathematics will be called to judgment before a severe and critical tribunal and the demand will be, as each subject in the curriculum is called to account, "Answer! What excuse has this subject for existence in our schools?" It is for us as mathematics teachers to be ready with our reasons for justifying any subjects that we think should remain in the curriculum.

Those of us who have thought about this matter know that there is great room for improvement in the curriculum and in methods of teaching. One of the lines along which many teachers are working today to effect an improvement in efficiency is the introduction of real applied problems. It is the purpose of this discussion to state as clearly as I can what I believe to be the function of real applied problems—what they can do and what they cannot do, to point out certain dangers in their excessive use, and to characterize briefly the material available at present for textbooks.

There seems to be some difference of opinion as to what a real applied problem is, but I think we may define it as a problem that occurs in actual life. There are of course applied problems that are not real. These may be puzzles intended to amuse, problems involving number relations like the digit problems, or those in which the relation of dividend, divisor, quotient, and remainder are emphasized, work problems which can be used very well to teach generalizations resulting in formulas, or they may be artificial problems that were invented to furnish some application of mathematics but which are so far removed from everyday experience that their absurdity far outweighs any possible mathematical value which they may have had when they were invented. Hare and hound problems, and the old problem beginning "If an egg and a half costs a cent and a half," are examples of this class. I have no doubt that puzzles and problems teaching number relations have a definite use in mathematical training, but the question that is vital just now is, What is the use of real applied problems? Teachers differ widely in their views of this question. On the one hand, some apprentice schools teach nothing but real problems; on the other hand, some high schools never teach problems that are real. What is the truth about the matter? I have been studying the practical use of real problems for two years from the viewpoint of a teacher in a high school where 85 per cent. of the graduates go to college, from the viewpoint of a teacher in an evening trade school, as chairman of a Committee on Industrial Education in the Association of Mathematics Teachers of the Middle States and Maryland, and as an examiner in mathematics for the International Committee of the Y.M.C.A. I am convinced that a more extended use of real problems would be a decided help toward efficiency in mathematics teaching. Let us consider some advantages which I believe the teaching of real problems afford.

Certain real problems have a practical use in that they prepare a student to do real work of a nature similar to the problem. Such are problems in surveying, mixing-problems in chemistry, and problems from the shop, e.g., those dealing with speeds of pulleys and cutting speed. A student who knows how to do these practical problems can command a higher wage than one who is ignorant of them. In New York City guaranty and trust companies and civil service engineers are looking for boys who understand surveying, while a boy who knows the theory of machine work such as can be secured from certain mathematical problems is more valuable at the start to his employer and will receive more money. Boys of this kind often become foremen in the shop within a short time. This practical use of mathematics applies most of all to trade schools, to a

large degree to manual training schools, to a less degree to schools fitting for technical colleges, and very little to the academic high school.

Another use of the real problem that applies to all schools is to hold the interest of a student while he is being taught pure mathematics. Of course pupils in academic high schools are usually obliged to attend up to the limit of school age, but the great falling-off of students in the first year makes the problem of interesting them a vital one. If a theory of interest is to be tried out, the best place that I know in which to try it is in an evening school. Here the men are not obliged to attend. They will leave as soon as interest dies out. The evening-school teacher must capture the interest of his class the first night and sustain that interest thruout the course or the men drop out and the teacher is out of a job. Now the most interesting thing to a man of this class is a real problem along his own line of work. So it is that the wise teacher gives a plumber who comes asking for plumbing problems an exercise in such problems the first night. That captures his interest. But that wise teacher knows also that the best thing he can give his men is training in the fundamental operations of mathematics. His plan then is to feed his students real problems enough to hold them and at the same time assign as much work in the fundamental operations of fractions, decimals, and formulas, as he thinks the class will stand. Now, this plumber who today calls for plumbing problems may lose his job tomorrow and may wish to enter some other line of work. He may see an opening in machine work. If he does and it offers a few dollars more per week, you can depend upon it he will take it. Then he will use his broad training in fundamental operations and be able to do machine problems with comparatively little trouble.

This same problem is present in academic schools. Interest a student in real problems and he can often be taught an amount of pure mathematics that would be impossible otherwise. Do not misunderstand me here. Not all students are interested in real problems. Some are much more enthusiastic over abstract than over real problems. But if the greatest amount of interest in the whole class is to be maintained, both kinds of work must be used.

Again, real applied problems are not only useful in a practical way and helpful on the side of interest, but they are also valuable for training. The student who solves real applied problems should develop the ability to apply mathematics intelligently. It is a common complaint of science teachers that students who are good in pure mathematics rarely have any idea how to use it. If a new situation presents itself, the student is entirely at a loss how to meet it because, as he says, he has "never had a problem like that." Continued use of his mathematics in real problems will give a student first of all an idea that mathematics can be used, and second, it will develop some judgment as to how it can be used. He will come to regard mathematics as a valuable tool with which he can do efficient work.

Another point of training which real problems will teach is that in actual life results are very rarely absolutely correct. The results are approximations to the required degree of accuracy. There is usually an allowance for waste material in problems that concern wood- or metal-working. The student should develop a certain judgment as to what a reasonable allowance is in any particular case.

Again, he will learn from real problems that different degrees of accuracy are desirable in different kinds of work—a result correct to feet being sufficiently accurate in certain pieces of work, while in others measurements are required to ten-thousandths of an inch.

It is likely that experience with real problems will make it necessary for the student to brush up his knowledge of decimals and square root, make him seek short methods to abridge the tedious operations involved in many problems, and force upon him the advantage of checking his work. It is evident that this training in appreciation of mathematics, judgment in its use, and insight into the nature of approximations—all of which force the student to review the fundamental operation—is applicable to mathematical

work in any high school where real problems can be fitted to the course. To sum up the use of real problems, then, we have found that they are useful in a practical way in schools of an industrial nature, that they develop interest which is indispensable in trade and evening schools and helpful in academic schools, and that they are valuable for training in all schools.

I believe that while real problems are a necessity in trade schools and manual-training schools, they could be used in the academic high school with great advantage. The students who graduate from our high schools do not have their mathematics well enough in hand to apply to the work which they will undertake. Employers complain that boys whom they employ are not ready and accurate in the fundamental operations. A review of arithmetic should be included in every high-school course. In this course there should be short methods, the use of the slide rule, methods of checking work, and a large number of applied problems. One recitation every two weeks devoted to applied problems thruout the four years of mathematics in the high school, together with the applied problems that come in the regular course, would result in graduating students with an appreciation of the value of mathematics, an intelligent idea of its application, and an ability to use it with efficiency.

There are, however, certain dangers in the use of real problems that it is worth while to consider.

Their excessive use may lead to a neglect of pure mathematics. This is a fatal mistake. It is of little use to a man to know how to do a practical problem involving the addition of fractions, if he is unable to perform the operation of adding the fractions. This danger may be avoided by teaching some abstract work, "problems without content," every day, and by keeping in mind that the pure mathematics is, after all, the thing which the student needs most.

Again, real problems are sometimes unorganized and ungraded so that the study of them does not lead anywhere. The student is hurried thru a mass of problems and finds on their completion that the product of his work is a confused notion of everything in general and no clear idea of anything.

The remedy here is to grade and organize the problems. Even in the evening trade school where the demand for practical work is so great, the most practical work in mathematics is a good general training in rapid, accurate work in the fundamental operations together with their application to practical work. The aim of the man in an evening trade school is to improve his condition. If he can do this in his present occupation, all very well, if not, he is eager to change the occupation. A broad training in the fundamental operations of mathematics enables him to change easily from one occupation to another that is more attractive. These dangers, however, are of minor importance and easily avoided. The emphasis at present by mathematics teachers should be on making our courses more practical. To this end the real applied problem is a great help. The great difficulty is to find real problems suited to classwork. Much is being done along this line at present. I will give a brief list of some material that is available. The list of books for work in real problems includes the following:

1. *The Hampton Arithmetic*—for industrial schools, Grades One to Eight—is a book of excellent problems which have been tried in the shops and the mathematical classrooms of Hampton Institute. This book will not be available for general use till a new edition is issued.

2. *Shop Problems in Mathematics* (Ginn & Co.) for any schools where there are shops, for upper grades of elementary schools, trade schools, manual-training schools, normal schools. This book contains problems in woodworking, metal-working, and a review of calculation, including short methods and a chapter on the slide rule.

3. Problems collected by the Committee of the Central Mathematical Association may be obtained of Miss Mabel Sykes, South Chicago High School, Chicago. (See *School Science and Mathematics*.) Not all of these are real, but many of them are good, tho of course they are unorganized.

4. *The Stone-Millis Arithmetic, Algebra and Geometry.* Many excellent problems.

5. Slaught and Lennes' *Algebra* and *Geometry*. Many instructive problems.
6. Young and Jackson *Algebra*. Especially strong in its application to science work.

At least three other books are in process of being printed.

Best English books:

Castle's *Workshop Mathematics* (Macmillan).
Cracknell's *Practical Mathematics* (Longmans, Green & Co).

In conclusion, then, I wish to urge the increased use of the real applied problem. It is indispensable in trade schools, normal training schools, and evening schools; it has a well-defined value in all schools on the side of interest and training. Its intelligent use will prepare us to answer the challenge, "What is the use of mathematics?" and will fit our students to do efficient mathematical work in the serious problems of real life.

E. MODERN FOREIGN LANGUAGES

MODERN-LANGUAGE TEACHING IN NEW ENGLAND

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The present observations are based on a questionnaire sent out by a committee of the New England Modern Language Association and on the final report rendered by that committee about six weeks ago.

It seems fitting that, in a national gathering such as is now taking place, along with the wide national movements certain sectional conditions be considered by way of comparison and contrast. If I were living in the West or the South, I should be interested to know the situation in the East and especially in New England, to learn something of the tendencies, the progress, and the results obtained here; not that the West and the South need to learn anything from us, but that the best kind of inspiration comes to us in facing facts as they are rather than in indulging in prophecies of what may be. To this end, I have noted some tendencies that seem to me significant, some conditions that need to be remedied, if modern-language teaching is to yield any serious results.

The first thing to strike an observer from the West is the preponderance of French over German which is a characteristic of New England. As a result of the questionnaire above mentioned, it appears that there are twice as many students in French as in German. This predominance of French is a curious phenomenon and shows how conservative New England has been, how little she has changed from the time of Lafayette and Franklin when France was our ally, when thru sentiment rather than a desire for efficiency we have clung to French as a polite language, as an accomplishment which every boarding-school girl and every gentleman shall have studied or at least forgotten. That we in New England should receive so little inspiration from a virile language like German, that we should be almost cut off from a knowledge of the mighty deeds of Germany in commerce, industry, and invention, is due to the scanty influence that the German language is having in New England. To us no longer call "the voices of the spirits, the voices of the masters"; we are isolated, isolated from a powerful branch of the human race that is striving like the Wagnerian gods against ignorance and inefficiency.

The figures in regard to Latin show it to be slightly behind French, while Greek is practically gone. There is what amounts to an "irrepressible" conflict between the classics and modern languages, a conflict that is in many ways unfortunate and perhaps without valid grounds, but which nevertheless exists, owing partly to the assumption on the part of the classics of superiority to modern languages, partly to the greater recognition which the classics receive in credits for college entrance. There ought, however, to be no conflict between them. The desire of each ought to be not to supplant but to supplement the other. Since the main purpose of the ancient languages is linguistic training and the educating of one's taste in literature, their place is in the college where the maturer

mind takes delight in accuracy of inflection, in fine shades of meaning, in comparisons of literary style; whereas in the secondary schools where care in inflection is a burden, where depth of thought and subtlety of meaning are conspicuously absent, the emphasis may well be on the training of the ear to understand, on the acquisition of the tools for research. This would mean fewer students of Latin but more Latin scholars, fewer pupils who have been exposed to Greek, but more who have been inoculated with the true love of learning. In brief, we as modern-language teachers do not wish the classics to go but rather to see them thrive and we hope that there will always be pure vestal souls to keep alive the sacred fire of learning and not to desert the altar the moment they enter the college temple.

This conflict between the classics and modern languages is perhaps part of a general conflict between the school and the college. The attitude of the school toward the college is one of impatience with its procrustean standards, of chafing at its senseless restraints. That is gradually disappearing in New England and would disappear entirely if the gap between the high schools and the colleges were closed. If the New England colleges will accept what the high schools have to offer, if each would limit itself to its own special province, it would be as natural for a student to pass from the high school to the college as it is for him to pass from the grammar school to the high school. In modern languages especially, where standards are not yet fixed, where uniformity does not prevail, there is need of a *rapprochement*, and happily our New England Modern Language Association, which gathers in groups and annual meetings and is composed of college and secondary-school teachers, has already accomplished a vast amount of good. At its last meeting, May 14, it drew up a platform on which colleges and secondary schools may stand together and work for progress. With free discussion and mutual acquaintance, suspicion and hostility are bound to go. In this, Harvard University, as the predominating educational influence in New England, can be of material assistance. If in the revision of the college-entrance requirements she will insist on rational methods of teaching modern languages, if she will demand that due attention be given to the training of the ear and the organs of speech, she will have rendered a greater service to the cause of good teaching than when she revolutionized the teaching of science by demanding a practical laboratory test and certified experiment books to supplement the examination in theory. Teachers in New England are in substantial agreement as to the wisdom, the necessity, yes, the practicability of a *viva voce* or "oral test." Not that they claim that their students are able to speak French or German with any degree of fluency, but that those students who have been trained to understand what is spoken or read aloud and who, in turn, can be understood when they read aloud to others, shall be examined in this part of their training and receive credit therefor. This reasonable demand of modern-language teachers is sure to be heeded, for modern languages will never be content to be formalized like Latin but will prefer to remain living tongues, working-tools first, instruments of culture afterward.

With greater harmony between school and college must come a division of work, a clear delineation of the province of each. Textbooks, for instance, must be divided; high-school teachers for high-school texts, college teachers for college texts, since the aim and methods of the two must be distinct even if supplemented. We must have greater care in the preparation of textbooks, a little more scholarship and less advertisement, a little more life and less mechanism. Let us hope that the words "easy," "simple," "short," as applied to language texts, will disappear. A foreign language is neither "easy" nor "simple," nor is "short" the word to apply to anything where mastery is concerned. But far above the improvement in textbooks must come both in school and college an improvement in teaching. There must be more oral work and less writing, more reading and less translation, a greater emphasis on the content and less on the form. The useful must be kept steadily in the foreground. There must be a purpose and an accomplishment of that purpose. The pretense at culture must be discarded. We cannot give culture or literary taste to young people of thirteen to seventeen any more than we can give them old age.

In college let us hope we shall have more teachers and fewer investigators, more nurses and fewer doctors. The colleges must remember that high-school teachers are not specialists in spite of the fact that this is the most frequent charge against them. As head of a large modern-language department, having frequent occasion to examine candidates with experience, I must say that the painstaking preparation for teaching, the delight in the skill of one's craft, the pride in the mastery of one's subject, are too frequently lacking; rather do we find that the typical modern-language teacher is a young woman who has taken a few courses in French or German, who has rarely had any training in phonetics, who can scarcely command more than a few classroom directions in the language, and who, if she has spent any time abroad, has been limited to part of a summer vacation. There has been, it is true, a marked improvement in the last ten years, but it has been confined almost wholly to the large cities where better salaries with perhaps a liberal pension system have attracted genuinely able men and women who are masters of their subjects. In the smaller high schools where perhaps half a dozen teachers try to maintain as many courses as are to be found in the larger cities, where for the past decade a so-called "enrichment" of the high-school course has taken place, the results in modern languages are rich indeed. How long we in New England shall live in this fools' paradise, how long we shall talk glibly of culture for boys and girls that need first the plainest training for efficiency, I do not know. Surely it would seem that better than the conservation of forests and water-power would be the conservation of children and mind-power from the wasteful methods that now prevail, from the scattering of energies that could so easily be turned to some useful purpose.

There is no other ground on which one may justify the presence of modern languages in the curriculum of the high school, except life-efficiency. Neither as an ornament, nor as a preparation for college have they a place in the secondary school. And if they are to be taught for efficiency, if this purpose must be kept in mind, they must be freed from the danger which is continually besetting all studies, the danger of formalization. It is a human weakness, more peculiar, it seems, to New England with its tendency to conservatism and its worship of precedent than to the free and daring West. To this human weakness is due the fact that we lay such great stress on grammar, and that, too, not as a check on incorrect speech but as an end in itself. We have classified all the nouns, we have declined all the adjectives, we have arranged alphabetically all the prepositions with the cases they govern, and after a student has memorized all these things and has thoroly classified the language, then we proceed to acquire it with the mental reservation of always identifying every word as to family and species. Every teacher is familiar with the fact that students may know the paradigms in the grammar and yet not be able to write correctly a letter in German ordering a book. Modern languages will therefore have to prove their right to existence in the school curriculum. This right should be based not as to whether or not they prepare for college, but rather as to whether or not they prepare for life; not as to whether or not they are good as "training" or "discipline," but as to whether, in the widest sense, they have a genuine intrinsic value. If the modern languages are to keep their place in the school, they will have to prove that they are useful instruments in a larger life, that they widen one's mental horizon, that they give ready access to the wonderful literature of two mighty peoples, and that culture, which is neither teachable nor tangible, but rather an attitude of appreciation of whatever is human, can best become a habitual attitude thru linguistic contact with two modern nations that have inherited in large measure the culture of the ancients. To this end modern-language construction must cut loose from the despotism of literal translation, from the mediævalism of memorizing paradigms, rules, and exceptions, from the stupidity of learning about the language instead of learning the language itself. Therefore in the words of Vietor of Marburg, "modern language instruction must turn back," reverse the process of dissecting a language before possessing it, reverse the process of script first and speech afterward, reverse the process

of transferring the foreign language into our element instead of bringing the foreign element into the life of the pupil.

I must mention in closing some disquieting influences now affecting among others the teaching of modern languages. The College Entrance Examination Board is assuming a leadership which before long will raise some very interesting questions. Having begun as an organization to standardize all subjects for college entrance, it has gradually assumed a control that the colleges originally entering into the board could not have foreseen. The desire for some measure of uniformity, the desire to be freed from the bother of making out and correcting examination papers, the desire perhaps to be protected against invidious comparisons, have led to the formation of the board and to its gradual absorption of a large share of the examining power. But note how power once delegated to hands outside of the college assumes power not originally intended. Note how the name of the examiners originally printed on each examination has been eliminated, note how the board will suggest, first methods, then textbooks, for only recently it sent to the schools a suggestion to use a certain syllabus in geometry, and from syllabus to textbook is only a short step. There is danger in modern languages of mechanizing the subject by making it all a written examination only, so that language in the words of the French shall not be *langage* but *plumage*. If anyone thinks that such boards are an unmixed blessing or that like all anonymous organizations they do not tend to abuse their constant increase of power, let him note the Carnegie Foundation and see how a laudable plan for pensioning superannuated college professors has become not only a judge of college standards but by its attitude of insistence on "points" and quantity it has already laid hand on modern languages in one New England college and therefore on the schools that prepare for it. Not long ago at a joint meeting of two committees working for more rational methods in teaching modern languages, after incontrovertible proof had been submitted as to the vicious one-year course in French and German, a representative from a New England college, admitting the folly of accepting one year of language preparation for college, said: "What are we to do? The Carnegie Foundation found that we were one 'point' short in our requirements for entrance. We had to make up the point and rather than lose the pension privilege of the Carnegie Foundation we decided to require one year of a modern language to make up the required point." Shades of Erasmus! What argument can scholarship offer against the Carnegie Bread Line?

Another disquieting influence in modern-language teaching, in New England especially, is the preponderance of women. It is not to be understood from this that the presence of women in the teaching profession is in itself undesirable, but when one considers that over 90 per cent. of all the boys in the United States leave school without ever coming in contact with a single male teacher; when there are fewer male teachers in the United States today than in 1880, while the number of women teachers has doubled; when you consider that I have frequently attended modern-language meetings where I was the only man present, you will not wonder that the course of study and the point of view are almost wholly feminine, that the tendency of the reading is toward the mawkish story and the sentimental lyric rather than toward history or scientific books. It is a sad commentary on the wisdom of a nation that spends vast sums on fine school buildings and equipment, and then hires the cheapest teachers it can get. It is a curious fact that those women who have avoided matrimony and its usual accompaniment, the rearing of children, should be the very ones to be put almost exclusively in charge of the education of children and especially of boys at the age when they most need the guidance of strong men.

THE DIRECT METHOD OF TEACHING MODERN LANGUAGES, AND PRESENT CONDITIONS IN OUR SCHOOLS

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Whoever has observed the methods of modern-language teaching in this country during the last decade cannot fail to recognize the slow but steady progress which has been made during this time. "The chaotic and bewildering conditions" of which the Committee of Twelve complained in their classic report of 1898 have given place to a fairly well established system, adopted by practically all the leading colleges and schools of the East, and by many institutions in the other parts of the country. The establishment of the three normal grades of instruction—elementary, intermediate, and advanced—representing courses of two, three, and four years respectively, with a definite aim and scope for each, was an important step in advance, while the committee's suggestions with regard to methods of teaching have proved to be of great value.

Some of these suggestions, in fact, altho commonplaces of theory and discussion, would seem to need as much emphasis today, as they did when they were first made, and it is perhaps not too much to say that their general adoption in the classroom at the present time would raise modern language instruction in this country from a rather low to a relatively high plane of efficiency. There is still too little emphasis laid on pronunciation, there is not enough care used in the selection of reading matter, and grammar is still too frequently treated as if it were an aim in itself and not rather a means to an end.

In particular, that method-suggestion which appears to me to be the most fruitful of the whole report, is also, at least as far as my observations go, the one most generally neglected. I refer to the "off-hand reproduction, sometimes orally and sometimes in writing, of the substance of short and easy selected passages" of the reading-matter. I believe that nothing would tend more toward vitalizing our methods of instruction than a systematic, thoro-going, and persistent following-out of this suggestion. It is right here that the pivotal point for the reform of our present methods must be sought.

The reason why the good seed of this suggestion has so far been unable to thrive in the soil of our schools, is because it has been choked by the rank growth of other matter. It was practically useless to put this excellent recommendation before the teachers, when at the same time they were overwhelmed with such a mass of grammatical and reading matter that time would not suffice for anything but the most mechanical working-over of the quantitative requirements. Thus quality had to be sacrificed to quantity. Moreover, the nature of the college-entrance examinations, with their insistence upon sight translation from an almost unlimited range of vocabulary, apparently made, and still seems to make, it necessary to prepare the pupil by giving him a large amount of reading so that, with the help of a good deal of more or less judicious guessing, he may be enabled to puzzle out the meaning of an unseen French or German passage.

It is not, however, the purpose of this paper to complain of existing conditions, but to point out, if possible, some specific way by which, under the present arrangement of classes, text-books, examinations, etc., we may immediately bring our methods a little more in line with modern ideas, such as prevail in European schools, and escape those severe criticisms of our instruction which of late years have been expressed by both native and foreign observers. Furthermore, I take it for granted that all progressive teachers nowadays agree that modern language instruction without a careful training of the ear and the organs of speech is of no more value than the teaching of chemistry or physics without experiments. The time is approaching when such training will receive its proper recognition in examinations, but the problem for the teacher right now is to meet present requirements and yet get the time for those things which his pedagogical conscience tells him are indispensable. The fact is, we are in a period of transition. The

old order is changing, but is changing rather slowly. We are not in the position of the French, where the Minister of Public Instruction simply issues a decree, revolutionizing overnight, as it were, the methods in use in all the schools of the country. We have to take into account traditions, prejudices, and vested interests. So our procedure must be cautious, conservative, in the nature of a compromise.

Let us assume, then, the ordinary class of beginners in an average high school, which, by the use of the textbooks at hand, has to be prepared in two years to meet the test known as the elementary French or German requirement. They will have to know a fairly large amount of elementary grammar, to translate at sight a passage of not altogether simple text, and to put some English prose into the foreign idiom. It is plain that we shall have no time for an extended phonetic introduction, nor will it be possible to extract inductively the necessary amount of grammar from a reading-text alone. We shall hardly be able to do without one of the established beginners' books, but it is in the way in which this book is used and in the way in which it is supplemented by oral work that the difference between the progressive and the unprogressive teacher will come in. Our book will probably be divided into lessons, and each leasson will contain paradigms of conjugations and declensions, some rules, a short vocabulary, and finally two sets of sentences, one in the foreign language and the other in English.

How shall we treat the lessons in our beginners' book, a book perhaps not even of our own choice, but which does not differ so very essentially from half a dozen others that might have been selected? Shall we give out the paradigms, rules, and vocabulary to be memorized, hear them recited, have the sentences translated from French or German into English and vice versa, correct the mistakes, give out the next lesson, and go on in the same way to the end of the term? Such teaching does not call for much original effort on our part, the teacher needs to be but a little ahead of the class; if he but holds them steadily to their tasks, they will by dint of plodding acquire a fairly good mastery of the forms of the language, a certain range of vocabulary, and they will pass their examinations. But by the same token, they will not have much real interest in the language, there will be no spontaneity in their work, and they will not develop what the Germans call *Sprachgefühl*, that almost instinctive feeling for what one can or cannot say in a langauge. The teacher himself soon loses all interest in this routine work, from year to year the drudgery gets to be more irksome; and when he listens to sharp criticisms of his methods, and perchance reads of wonderful results attained in Germany and elsewhere, he only grows more and more disheartened. "Die Botschaft hör' ich wohl, allein es fehlt der Glaube." Is there no way out of this dreary wilderness? Do we have to wait until the pedagogic millennium arrives, when classes will be small, courses properly lengthened, ideal textbooks introduced, and no examinations set by outside authorities? Or can we take these things as they are, and by putting our heart and soul into the work, make a little improvement right here and now, in spite of adverse conditions? I think we can; and in order to do it, we must emancipate ourselves from the tyranny of the textbook, use it as our tool, not bow down to it as to our master. I propose to show in a number of specific instances how this may be done, and, as my own work lies wholly in the field of German, I shall confine my remarks to that language, since the same principles will apply equally well to French or any other modern language. The fundamental idea must be that language is intended primarily to be spoken and to be acquired by the ear, only in the second place to be read and to be acquired by the eye. Hence, new material must be presented with books closed; the first impression must come from the lips of the teacher to the ear of the pupil. Secondly, the unit of speech is the sentence, not the word. We must, therefore, not start with the abstraction of a paradigm or a list of words, but with complete sentences, however simple. The beginning may be made with sentences of the "Das ist . . . ." type, naming the different objects in the classroom. "Das ist der Tisch, der Stuhl, die Tür, die Tafel, das Fenster, das Papier," etc. No

translation, of course, is necessary, the new name being directly associated with the object. As these things are named, the answers are written on the blackboard, thus supplementing and checking up the auditory impressions by sight impressions. The necessary directions may as well be given in German from the very beginning: "Schreiben Sie das an die Tafel," etc. It is not necessary at this stage that the pupil understand the syntax of such a sentence, he understands it as a whole and remembers it just as easily, or rather more easily, than an isolated word.

From the sentences written on the board, two facts may be gathered inductively, one that, in German, nouns denoting things may be masculine, feminine, or neuter, and the other that all nouns are capitalized. The next step might be made by using the same nouns as objects of the verb "Ich zeige," which will bring out the difference between the nominative and the accusative. The necessary grammatical explanation is briefly given in English. The attempt to obviate entirely the use of English in the classroom is impractical. Pupils of high-school age want to know the reasons for making changes in the forms of words, and they should be given those reasons in the quickest and most intelligible way. Not more than a very few periods can be given up to this preliminary oral work, supplemented all the time by writing on the blackboard; then the systematic study of the lesson-book begins. It is perhaps needless to state that, for the beginning, I regard the careful preparation of each lesson in the classroom as absolutely essential. For a long time the homework of the student should be nothing but a review of the work done in the class, otherwise the former is apt to result in more harm than good. This preparation will consist in introducing in as natural a way as possible the new words of the lesson and in developing in an inductive way the necessary grammatical rules, always taking care to use the old words over and over again, giving the necessary directions in German as far as possible, and adding to this stock of phrases as fast as the class can be made to absorb them.

We now come to the German sentences. They have been framed by the author of our text to illustrate some grammatical facts and to employ a certain vocabulary; the pupil, who has been introduced to those facts and to that vocabulary in the manner explained, has, of course, no difficulty in translating the exercises. Suppose he comes to the class with that preparation. Shall the time of the recitation be spent in re-reading and re-translating the sentences? This is what commonly happens, but it is hardly the best use that can be made of this material. The sentences should be treated as little stories that can be told in answer to questions, and as models for similar stories which the ingenuity of the teacher may try to make as live and interesting as possible. It is surprising how much can be done in this way with material that, at first glance, would appear hopelessly dry and uninteresting. Let me illustrate by an example taken directly from the classroom. The book I am using contains in one of the first lessons the following two sentences which are framed chiefly to illustrate the declension of the article (definite and indefinite), and to use the names of some occupations and some terms of relationship. They read like this: 1. Wie heisst der Sohn des Lehrers und was ist er? Er heisst Hans und ist Künstler. 2. Ist der Schüler Fritz Franke nicht der Sohn eines Zimmermanns in der Kanalstrasse? Nein, er ist der Sohn einer Frau Franke in der Bismarckstrasse; Zimmermann Franke ist sein Onkel.

Regular Ollendorfian style, you will say. Not quite; I admit these sentences are not very deep, but still they are not altogether unnatural; one may consider them as bits of conversation that under some conceivable circumstances might have been uttered by a German speaker. For this reason they may be used as the basis of a sort of conversational drill. The members of the class understand that the questions asked of them are not intended to elicit information about themselves or members of their families; they are encouraged to give as varied answers as they can, irrespective of their material truth, provided they are reasonable. It is a game we are playing, and they enter into it with all

the zest of the play spirit. A sort of conversation like the following may ensue: "Wie heissest du? Ich heisse Karl Kauffman. (May be not the boy's name at all, but he chooses it because it sounds German.) Wessen Sohn bist du? Ich bin der Sohn eines Schumachers. (Other pupils in the class answer the same question in a variety of ways, as "eines Arbeiters, eines Lehrers, eines Musikers," etc., always, of course, in the form of a complete sentence.) Ist dein Onkel nicht ein Kaufmann in der Wallstrasse? Nein, er ist ein Lehrer in der Hochschule," and so on, as long as the time and the interest of the class will permit. While one pupil is reciting a dozen are eager to give a different answer to the same question, four or five are writing their sentences on the blackboard, and all are intensely interested. Moreover, every word that has been spoken or written is in German, and every moment of the time has been utilized to the best advantage.

You will observe that this kind of exercise is as far removed from the aimless talk of the old so-called "natural method" as it is from the deadly grind of the dry-as-dust grammar-and-translation method. It is perfectly definite, and it serves the purpose for which the sentences of the lesson-book are designed. Only it gives very much more practice than is usually afforded by the working-over of the lesson material, and it makes this material alive and interesting, also it calls forth the best efforts of the teacher and of the class.

What about the English sentences to be translated into German? It is plain that under our plan these sentences become practically unnecessary, since the pupil has had all the drill that is needed to fix that particular lesson in his mind. But there is a far more important consideration than this. By centering the pupil's attention on the English idiom, we are running a great risk of breaking up the very same associations which we have just been laboriously building up by our German conversation. We are tempting him, as it were, to make mistakes which, when expressing himself freely in German, he would never think of making. If, therefore, translation into the foreign language is considered necessary at all, it should come later in the course, possibly in the way of review and only after the pupil has developed *Sprachgefühl* enough to keep him from falling into gross errors caused by following too closely the English idiom. Some of the best teachers, however, dispense with this sort of exercise almost entirely and yet their pupils, when called upon to translate from English, do as well as those who have had abundant practice in prose translation.

For another reason, too, translation from English into the foreign language is of rather doubtful value. When by means of it we wish to drive home a grammatical rule or fix a set of forms, there are so many difficulties to be considered at the same time, difficulties of vocabulary, word order, idiom, etc., that the pupil's attention is distracted from the main issue. "Er sieht den Wald vor lauter Bäumen nicht." A much better plan for this purpose is to furnish the pupil with a ready-made German sentence, leaving blank those words or endings in which the application of the desired grammatical rule appears. In this way he has to deal with only one difficulty at a time and his attention is not drawn to a number of side issues. Familiar examples are the supplying of endings of adjectives, or cases after prepositions, etc. Similar devices, however, may be used in many other cases. Suppose, for instance, we have to teach the verbs which take their object in the dative, such as antworten, begegnen, danken, dienen, etc. Let the teacher write incomplete sentences on the board such as these: "Das Kind antwortet ——— ——— ———. Auf der Strasse begegnete ich ——— ———. Wirst du nicht ——— ——— danken? Der Soldat dient ——— ———, etc. The pupils will vie with each other in suggesting proper objects for these sentences; they will draw upon their whole previous vocabulary and incidentally will review all the different forms for the dative which they have learned. The homework following this lesson consists in writing original sentences in which verbs requiring a dative object are used, and the crop of correct and interesting sentences which will be brought in by the class the next day will compare very favorably with any similar set of sentences devised by the average grammar-maker.

Examples of this kind might be multiplied, but enough has been said to suggest to the thoughtful teacher how he can follow a textbook and yet make himself independent of it. The main thing is always to devise a variety of exercises by the use of which the foreign language material can be handled, changed, transformed, without the constant intervention of the pupil's vernacular. This, to my mind, is the essential feature of the direct method.

The same principle applies to reading. To turn a pupil loose, with a grammar and a dictionary in his hands, upon a page of strange text in a foreign language seems to me almost a pedagogical crime. As in connection with the grammar, so now in reading, the pupil should get his first impression of the new material from the teacher in the classroom. To illustrate: In the book which I am using with my beginners' classes, I find a simple version of the Lohengrin story. Before assigning this story for home study, it is my practice to put before the class the picture of a German mediæval castle. With the help of this picture, a number of new words which will presently appear in the story such as *Burg*, *Ritter*, *Ross*, *Rüstung*, *kämpfen*, etc., are taught. Then the story is told to the class in German, using language still simpler than that in the book, and is immediately reproduced by the pupils in answer to questions in German. If the story is now assigned for home study there will be no need of thumbing the vocabulary, or of translating at all. The story will be understood in its own language, and there will be no difficulty in reproducing it the next day either orally or in writing. Moreover, a good many of the words will have entered the active vocabulary of the pupil, that is, they will occur to him when he wants to use them in any connection whatsoever. This is what almost never happens, or happens only to a very slight extent, when the ordinary methods of reading are used. In this case, the words the pupil has met enrich, at best, only his passive vocabulary. He recognizes them when he meets them again, but they have not entered his mind in such a way that he can recall them at will.

It must be conceded that reading done in this way is a far slower process than when carried on by the customary method. But that is just as it should be, particularly in the beginning. Nothing is gained by trying to cover a large amount of ground superficially. Food hastily bolted is not properly digested, the features of the landscape thru which we are rushed at railroad speed fail to make a lasting impression on our minds. Every teacher of classics or modern languages is familiar with the type of student who has to look up the same word over and over again, to whom translation always remains the dreariest kind of drudgery, and who finally, in desperation, either gives up the task, or tries to lighten his burden by illegitimate means.

On the other hand, if the student is carefully prepared for reading in the manner described, he will gradually gain in power, so that reading to him will by and by become a pleasure. He will carry away from school an abiding interest in the language, a permanent enrichment of his mind. All the wealth and beauty of the foreign literature will be open to him. Needless to say, he will have no trouble in passing examinations. For has not all his reading been practically at sight? He will realize that he must understand a passage before he can attempt to put it into English, and will not piece words together, regardless of whether they make sense or not.

What I have tried to bring out is not a new scheme at all, but is in accord with the methods of the best teachers at the present time. To put it into practice in any schoolroom where modern languages are taught, no revolution is needed. It can be done at any time, by any earnest teacher, whether native- or foreign-born. I do not mean to imply that we should stop our agitation to bring about more nearly ideal conditions, but the surest and quickest way to reach this result is for us to make the best possible use of our present opportunities.

DISCUSSION

C. A. KRAUSE, Jamaica High School, Jamaica, N.Y.—We learn a living language in order that we may be able to understand it and to use it. To attain both ends, the spoken and the recorded language must be considered. The most economical way of becoming proficient in the latter is by way of the former. If we have anything to say and can say it, we can write it also. But how can we write effectively if we have something to say but are not thoroly conversant with the usage of the tongue? What is the result? A heterogeneous composite *à la mosaic*, but with an effect that is appalling.

Now let none misunderstand me. I am not championing a so-called natural method of teaching modern languages, which is a *lucus a non lucendo*, but a rational method which will be productive of best results. If we start with the sounds, words and phrases, and easy sentences of the foreign language, soon the habit of thinking in it will not only be engendered but become stable. I should advise not using any books at all in the initial stage of our modern-language instruction, and this for two reasons: (1) No printed symbols will confuse the pupil in the very beginning. (2) The constant staggering from one language into an entirely different one will be avoided. After some five weeks of preliminary practice of aural and oral training, an easy reader may be taken up, reserving the study of systematic grammar to the very end of the first term after the pupil knows something of the language.

Someone will speak of the difficulties confronting us in employing the direct method of teaching modern languages. I say, difficulties there are everywhere, and there is no royal road to learning. But most difficulties are not very serious, or appear greater than they really are. Let us take, for example, the age of the pupils, the time and length allotted to the study of modern languages, and the inherent difficulty, chiefly of German. Believe me, all of these seeming obstacles will vanish before an energetic, resourceful modern-language teacher. Our pupils entering upon the study of foreign languages are about fourteen years old. To be sure, I should like to see them start a few years younger, but what of it? Their vocal organs are still flexible. They have imagination and enthusiasm in abundance. As to time, five periods a week and four years' length are enough to obtain good results. as is proved by the *Frankfurter Reform Realgymnasien* for the study of English. Of course, a one-year course in modern languages is an absurdity.

German inflections are serious, I grant, but the results achieved in France with the direct method are more than satisfactory, and go to prove that even the most troublesome features of German accidence can be readily mastered in this way, i.e., cases, prepositions, adjective and noun declensions, genders, position of words, etc.

As to the dearth of properly trained teachers, which is one of the most important problems—it is really amazing to record how little it takes to employ and succeed with the direct method. A conscientious teacher does not need to be a *Sprachmeister*, but must have so assimilated the work in question that intelligent queries may be asked and suitable full answers be given. *Docendo discimus* is true everywhere and likewise "practice makes perfect." A given text has its specific vocabulary, which can easily be handled by any fairly well-prepared teacher. I can safely assert that in our own city not many teachers, if any, could be found who could not appeal to the pupils directly in the foreign tongue if they, the teachers, were encouraged and directed to proceed thus. The effect upon the teaching would be a vitalizing of our instruction and a regeneration, or, at least, a vivification of both teachers and pupils alike.

How about our present examinations? Do they test the pupils' knowledge of language and *Sprachgefühl*? I most emphatically say, No; but they bring forth some nominal and verbal formations that are truly wonderful, at times impossible, at times meaningless.

What do you think of questions like: Conjugate, in the singular, *vorgefallen* in the present indicative, *anfing* in the perfect indicative passive. Write with the definite article

the genitive singular and the nominative plural of *Sonne*. Translate into idiomatic English: "Diese Behandlung der Fabel ist nichts weniger als notwendig," where at our Borough Conference of German Teachers most of those present broke down. Write the synopsis of *hob auf* in the second singular passive. Imperative, *werde aufgehoben*, reminds me of *werde geboren*.

I shall not speak at length now of these examinations, especially the so-called Regents', since I reserve them for another day. All I want to say is: as long as grammatic formalism and pedantic erudition reign supreme, so long we cannot expect to teach German and French properly. Let us free ourselves from this incubus of modern-language instruction and let us take the road which leads to happiness and conscious power, i.e., the direct method of teaching modern languages. Let the work in modern languages be primarily work in aural and oral facility and let it be tested in all examinations, for the ability to speak a foreign language is the best means to the desired end of learning that language. The educational authorities of New York City are beginning to realize the importance of this matter.

WRITING IN GERMAN

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The direct method emphasizes oral work in language-teaching, and properly so. This side of the work is sadly neglected where translation and grammatical rules are the chief means of teaching a foreign language. But the fact remains that writing maketh an exact man, and this quality is as necessary today in the training of pupils as it ever was.

The prevailing type of written exercise in American schools is still translation from a more or less prepared English text into German. The number of composition books published is evidence of this. To the same class belong the English exercises based on the text, for translation into German, which pad so many editions of the texts read in our schools.

Two objections to this type of exercise may be noted. One is that the English text tempts to all sorts of mistakes. Take, for example, the sentences: "He has gone" and "Yesterday I saw my friend." Such sentences contain a temptation to wrong German which can be resisted only by a very great conscious effort on the part of the pupil. This suggestion destroys whatever *Sprachgefühl* may have been acquired.

A second objection is that attention is not directed to the subject-matter of the German read. The pupil has his material provided for him. He does not have to rely on his memory for it, and the habit of ignoring the subject-matter of what he is reading, which has been acquired by translation from German, is strengthened.

The results obtained by translating from English into German are so unsatisfactory that we ought to be ready to agree with Sweet when he says:

> It is evident that the impossible task of translating into an unknown or only partially known language can be accomplished only under restrictions which make it either an evasion or a failure. . . . . We have also to realize what is meant by making mistakes in our exercises and correcting them afterwards. It means the laborious formation of a number of false associations which must be unlearned before the labor of forming the correct ones can be begun. . . . . Everything in the nature of exercise-writing ought to be abolished not only in the beginning but thruout the whole course.

A new type of written work should be adopted that will co-ordinate with the direct oral work and supplement it where oral work does not suffice. It will be based on a German model and no English will be put before the pupil.

The chief aim of one set of direct written exercises will be grammatical drill. There are in German a number of grammatical phenomena the constant recurrence of which makes them of prime importance. If the pupil forms the habit of using these correctly, much satisfactory German will follow without great effort. In other words, he has acquired some measure of *Sprachgefühl*.

One such phenomenon is inverted order. A sentence such as: "Ich habe gestern einen Brief von meiner Schwester erhalten," may be given to the pupil with instructions to write it four or five times at the board, in each case beginning with a different member of the sentence. Repeated drill on a limited number of such sentences will in a short time make inversion seem a perfectly natural thing. Transposition may be taught in the same manner. Groups of simple sentences are given to the pupil, which he is to combine at the board into complex sentences.

Omitted-ending exercises will assist in teaching prepositions. A series of passages may be prepared in which the endings of articles and other inflected words have been omitted after prepositions. The pupil is instructed to write the passage at the board, filling in the blanks. When the pupil has learned to use prepositions correctly in some ten or twelve such passages, he will use them with some degree of correctness elsewhere.

The proper use of the second personal pronoun is another stumbling-block to beginners. A letter may be given to the pupil with instructions to change it from the formal to the intimate style, or to write it to two intimate friends instead of one, and *vice versa*.

Similar exercises may be devised to teach the use of conjunctions, of pronouns of different classes, of the subjunctive in indirect discourse, in wishes and conditions. Effective drill on forms and other points of syntax may be obtained in the same manner. The controlling idea in these exercises is that the pupil is working all the time with German material and has no English before him to mislead him.

A second kind of writing which will replace translation from English is reproduction. The earliest exercises will be the exact reproduction by the pupils of what they have just read or heard. The teacher speaks short sentences which are repeated by the pupils. While this is going on, other pupils at the board are writing the sentences they hear spoken by teacher and pupils. Four pupils at the board writing alternate sentences are able to keep up with the oral work. The written board-work will then be inspected by the class and errors in it corrected.

A little later the teacher may ask questions on matter that has been read. The pupils answer and both questions and answers are written at the board by other pupils. Another simple exercise is to write a passage from the text in hand with some modification, change of number, of tense, of person. Or a story that has been read may be written in character. One pupil may write in the person of Little Red Riding Hood, another in the person of the wolf. The longer stories usually read in the second year may be divided into portions suitable for reproduction. Almost every page of *Immensee* presents some situation which easily becomes a unit for reproduction. After the passage has been read the teacher and class should work it thru by question and answer. By this means the teacher can fix the vocabulary and phraseology of the passage and he can also suggest the disposition of the pupil's reproduction. After the questions and answers the passage should be reproduced connectedly by one or more pupils orally, then reproduced at the board and corrected.

Two points should be observed. That which is to be written should first be worked thru orally. This will give more rapid movement to the written work and prevent many errors from appearing in it. Second, that which has been spoken by the pupils should be written at the board. Oral work, not checked by written, tends to become inaccurate.

The acquisition of new vocabulary and facts of grammar will take place in class under the direction of the teacher where it properly belongs. The homework of the pupils will be the review and fixing of what has been presented in class. A useful definite assignment for homework is the mastery of the new vocabulary. The lesson for the next day may be read by the teacher, the new words and phrases explained, in German preferably, in English if necessary. The pupils will be instructed to learn the new words in the sentences in which they occur. The next day the teacher or a pupil names the new words and the pupils give the sentences in which the words are found.

The questions of the teacher will not be asked at random but will have a definite aim.

At one time they will be so framed as to call attention to the subjects or the objects. At another time they will put stress upon the verb. They may put in use a vocabulary that the teacher wishes to fix, or they may bring out clearly the thought of the passage.

If a classic literary work is read in the third year much of this too can be used as material for writing. For instance, *Hermann und Dorothea* contains many episodes which the pupils renarrate with real pleasure. Some such are: Hermann is sent to help the exiles; Hermann meets Dorothea for the first time; Hermann's visit to his rich neighbor; Hermann visits Dorothea at the well. After such an episode has been worked thru and reproduced, it may be reviewed at any time by suggesting the title to a pupil and asking him to write about it. The subject-matter of the work studied may thus be constantly kept fresh in the minds of the class.

In the more advanced reading of the high-school course many passages are well adapted for reproduction and should be so treated. Here also a third type of writing based on the German original is in place, the résumé. A model of a résumé of a classic in simple language is given by Bielschowski in his discussion of *Hermann und Dorothea* in his *Life of Goethe*. Skillful questioning by the teacher will lead the pupils to make some approach to this model in summarizing some work they have read.

Occasionally in the last year of the high school and more frequently in more advanced work a pupil may be asked to write something from his own experience or observation. After having read in German some account of travel, he may write a description of some trip of his own. If he has been reading German history he may be asked to describe some similar incident from American history. If he has discussed the character of Wallenstein he may be told to characterize Macbeth. The important point is that before attempting to write he should first have studied similar matter in German.

Even with the reading-material we now have, encouraging results can be obtained by the procedure here outlined. But to get more satisfactory results we must have a different kind of reading-matter. This should be for the most part narrative and descriptive prose. For obvious reasons poetry does not lend itself well to reproduction and dialog is of little use. About all that can be done with it is to repeat it. The ready-made questions which are appearing in so many editions of school texts are rather a disadvantage. A teacher who cannot frame questions of his own of more interest and profit to the members of his class than those in the book had better not attempt questioning in German.

Since the connection between what is read and what is written is so intimate the subject-matter read becomes of greater importance. It is so constantly worked over that it should be something worth while, something that will be a valuable permanent possession of the pupils. Incidents from German history, sketches of German life, biography of distinguished Germans might well replace much that is now read.

This scheme does not contemplate a mass of written paper work to be corrected by the teacher. The writing should be done at the board while the German original is fresh in mind and where mistakes can be corrected and the proper forms substituted and fixed before the false forms have made a deep impression. In regard to blackboard we have a decided advantage over our German colleagues. They have a small ornamental affair in the front of the room large enough for two pupils. Blackboards cost too much, they say, and besides they would destroy the æsthetic quality of the room, making it look too much like a schoolroom. The American classroom has blackboard space for fifteen pupils. According to one authority the three American contributions to school economy are the woman teacher, the textbook, and the blackboard. Modern-language teachers should make the utmost use of this third innovation. The boards should be covered with written work every period. The correction of this work will not take so much of the teacher's time as might be thought. While the oral work is progressing under the direction of the teacher several pupils may be sent to the board to underline mistakes in the written work. Very few will escape them. The teacher can then with the help of the class correct the

errors and fix the proper forms in a short space of time. It is not a serious matter if the teacher does not find time to correct all the board-work. The pupils have had practice in writing and the whole class will benefit from that which is corrected. Errors, too, tend to correct themselves as the one rule of conduct is to observe and follow closely the German text.

The mistakes of the pupils whether in speaking or writing should not trouble us too much. Walter was right, altho criticized, when he said that the important thing is, that the pupil speak, not that he speak correctly. The greatest modern educator, Goethe, emphasizes practice as the essential in learning. "Vollenden ist nicht die Sache des Schülers, es ist genug, dass er sich übt."

At the end of a three years' high-school course in German, pupils who have been thus trained in writing should be able to reproduce in tolerable German a simple narrative they have just heard or that they have read a single time, and they should be able to ask and answer questions on such a narrative. The advanced work of college could then extend the student's command of German in speaking and writing and give him a wider acquaintance with German life and literature, and not spend the valuable time of the classroom in translating from and into German.

The ability to use German with tolerable correctness in speaking and writing is certainly desirable, but it is not for the reason that it produces this result that the direct method is primarily advocated. It is at the same time the quickest and most effective way to learn to understand German both written and spoken, and so to become directly acquainted with German thought and German activities. This is a dignified aim worthy of our best efforts. An acquaintance with German affairs is a growing necessity for leaders in all fields of activity and the office of the modern-language teacher thus becomes of increasing importance. "Uns Neuphilologen gehört in Schule und Leben die sprachliche Zukunft."

DISCUSSION

J. B. E. Jonas, Brown University, Providence, R.I.—If, as the first speaker tells us, French so decisively preponderates over German in conservative old New England, this meeting is surely an invasion of "the enemy's country" by the Germans. All the papers on the program and thus far all the discussions have been on that side of the house.

Dr. Tuckerman's racy and incisive paper calls for much assent and little dissent. One point failed to leave quite a clear impression on my mind. The speaker at once pleads for greater co-operation between the preparatory schools and colleges, and at the same time demands greater differentiation between them, going so far as to advocate entirely different textbooks, teachers of different training and attitude, etc. To the first we all agree. The pathetic spectacle of the colleges pulling one way and the secondary schools another, without interest in, and understanding of, each other, is deplorable. Much can be done by establishing personal relations to improve these conditions, as the New England Modern Language Association, composed of members of both, shows. Its example should be followed. Whatever cases of individual grievance the secondary school may have, I am here to state emphatically that colleges do not take the attitude of sitting in judgment on an exalted throne and dictating impossible or even unreasonable requirements. We mean to be fair, but we must be exacting; and, believe me, we have much just fault to find. But we do not mean to be unreasonable. Our education is rapidly becoming standardized, and standards we must have that should be at least approximately met. The much-berated college-entrance examination must at least be touched upon here. I am not a passionate partisan. Statistics show that in colleges admitting by both, a far larger percentage of students admitted by examination fail than of those admitted by certificate. But you teachers refuse to grant certificates to many students. We must therefore examine. What else is there to be done about it? The ideal—if the

word ideal can be used in speaking of so difficult a matter—is found in Germany, where the secondary school has the sole and final decision on fitness to enter the university. A teacher who has known and worked with a pupil for three or four years obviously knows his ability better than an unacquainted college professor, who bases his knowledge of him solely on four or six pages of written matter. That stands to reason. Furthermore, a two-hours' examination is rarely—I am strongly inclined to say never—a just test. Some persons work to great advantage under pressure of the nervous strain, others fail to do themselves even remote justice. But under present conditions, the examination, with all its shortcomings, is inevitable. Let us hope for—work for—a better day, and not blame the college too bitterly.

The other question, that of differentiation, is subtle and really lies beyond the province of this meeting. That, taken as a whole, the secondary school and college have different ideals and aims is true: one aims at instruction, the other seeks to impart culture; one deals with immature minds, the other with maturing intellects. Yet the generic difference is not so great: a good college teacher would, I think it entirely safe to say, make an excellent secondary-school teacher, and a textbook that is found to excel in the secondary school would be found equally superior for college work.

The paper of your chairman is so sane and in every way admirable that I feel sure there is no one here but heartily endorses all he has said, and will attempt to carry out his suggestions as far as possible in his own teaching. Many, of course, feel timid about trying the new way. It is easier and safer, they think, to adhere to the old way. Four per cent. interest may be less remunerative than eight or twelve or even twenty, but there is such serenity in its security! In midstream there is always a strong temptation to keep hold of the boat instead of launching out; but once resolutely cut loose, and it is not so hard, after all, to swim—and it is so much better fun and exercise! Others have done it; you can, too.

Mr. Bole's stimulating paper, on "Writing in German," or rather negatively stated, on "Not Translating from English into German," no doubt seems to many revolutionary enough to call for a declaration of war. Not to translate from German into English is bad enough, but now not from English into German! Pray, what test shall we have, then? But Mr. Bole is entirely right. There should be much more oral work. In one of my courses I have been doing this sort of work, relating a short narrative and having it retold the following day, and one written once a week, and it is astounding how automatically the word-order, genders of nouns, and most endings take care of themselves.

And now, finally, the question of grammar—or omission of grammar—that all the speakers have emphasized and which is the real import of the direct method. Language was not made for grammar, but grammar from language. To some of us the experiences of the speakers, using no grammars for a whole year or more, and some even dispensing with a textbook of any kind for a long period, seem hard to believe and harder to follow. Still it is true that few of us know much about English grammar. The same is true of the Germans, French, and other nationalities with reference to the formal grammar of their languages. And we all know that if we go to Germany or France we do not learn the language of these countries by grammar, but by actual contact with the living speech, and that the language once ours, it is no great task to learn the essentials of the grammar—if we have any desire still to do so. This same attitude with necessary modifications and adaptations is the aim of the direct method. How far each individual can go toward realizing this ideal must be left to conditions and judgment, but it is pretty safe to err on the side of tending away from formal grammar. Much has been accomplished in the teaching of modern languages by this method, both in Europe and here. More still remains to be done.

DEPARTMENT OF HIGHER EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—George E. Fellows, president, University of Maine ..... Orono, Me.
Vice-President—Charles E. Bessey, University of Nebraska ..... Lincoln, Nebr.
Secretary—Frank E. Thompson, University of Colorado ..... Boulder, Colo.

FIRST SESSION—Tuesday Forenoon, July 5, 1910

The meeting was called to order in the Second Church, Copley Square, Boston, at 9:30 A.M. The President's address was delivered by President George E. Fellows, president of the University of Maine.

The first paper was by James H. Baker, president of the University of Colorado, whose subject was "Administrative Problems Outside of Teaching." The subject was further discussed by James K. Patterson, formerly president of the State University of Kentucky.

The second paper was by Frederick P. Keppel, dean of Columbia College, whose subject was "College and University Administration: the Office Side of the Question." Administrative problems suggested by the papers presented were discussed informally by President C. A. Duniway, University of Montana; President James K. Tillman, University of Arkansas; Chancellor Samuel Avery, University of Nebraska; Miss E. A. Colton, Meredith College, North Carolina; Dean James A. Smith, John B. Stetson University; President Walter B. Clippinger, Otterbein University; President A. R. Taylor, James Milliken University; and others.

A Nominating Committee was appointed, consisting of President C. A. Duniway, University of Montana; Chancellor Samuel Avery, University of Nebraska; and ex-President James K. Patterson, State University of Kentucky.

SECOND SESSION—Thursday Forenoon, July 7, 1910

The first paper of the session was presented by W. H. P. Faunce, president of Brown University, on "Relations of Faculties and Fraternities." The discussion was opened by Ralph K. Jones, librarian of the University of Maine, and taken part in by Chancellor Samuel Avery, University of Nebraska; President A. R. Taylor, James Milliken University; Dean James A. Smith, John B. Stetson University; President Arthur Grant Evans, University of Oklahoma; Professor Wayland J. Chase, Beloit College; and others.

A paper on "College Discipline," by Thomas Arkle Clark, dean of men, University of Illinois, was presented, followed by a general discussion, including remarks by William DeWitt Hyde, president of Bowdoin College.

The Nominating Committee presented its report, which was adopted and the following officers declared elected:

For *President*—James H. Baker, president of University of Colorado, Boulder, Colo.
For *Vice-President*—James A. MacLean, president of University of Idaho, Moscow, Idaho.
For *Secretary*—Frederick P. Keppel, dean of Columbia College, New York City, N.Y.

The department then adjourned.

Ralph K. Jones, *Acting Secretary*

PRESIDENT'S ADDRESS

DEPARTMENT PROBLEMS

GEORGE EMORY FELLOWS, PRESIDENT OF THE UNIVERSITY OF MAINE
ORONO, MAINE

I feel that this department has resting upon it a grave responsibility, inasmuch as the work of higher education has expanded most wonderfully in the past few years.

In nineteen of the United States there is a state university with an agricultural college as one of its departments. There are nineteen states and territories in which there is a state university and an agricultural college in addition, and there are several states and territories which have an agricultural college and no state university.

The numbers in attendance at these institutions are striking. In the state institutions they vary from a few hundreds to five thousand or more. Several of the largest privately endowed institutions also have five thousand or more students. The great numbers in attendance at these colleges and universities not only increase the problems of the institutions themselves but increase the problems of this department, which should certainly consider with great care the relations of the higher institutions of learning to the great public-school system, as well as the relations of these higher institutions to each other.

There are other problems which might well be discussed in this department. During the past few months there have been serious student disorders, in one of the large middle western universities, in one of the large eastern universities, and in one of the smaller New England colleges. There have been student strikes, because of the enforcement of discipline, in one eastern institution, and even in several high schools. There have been even a few deaths resulting from initiations into societies, and there are frequently absurd and idiotic performances in connection with such initiations. There are many so-called colleges and universities, professional and academic, which are run chiefly for financial profit.

It is highly fitting that this department, composed as it is of the members of the faculties and administrative officers of institutions for higher education, both private and public, should discuss and outline definite pronouncements on many of these topics. Here also should the principal relations of liberal and practical education be considered.

This department might perhaps sit as a court to reach judicial decision upon all these questions, after hearing the advocates of each.

Coming to the front with its insistent demands, is the whole question of industrial education. The relation of this to higher education needs careful consideration, also how far privately endowed institutions should follow the lines of work mapped out by law for state institutions, especially

in agricultural and other technical lines. We might also very properly consider the whole field of extension work in higher education which is already carried out so fully by the University of Wisconsin, the University of Chicago, Columbia University, and Boston University.

Private institutions have problems of their own which are often considered in their associations. The state universities have problems peculiar to themselves which are carefully studied in annual meetings of the National Association of State Universities. This department of the National Education Association has still left to it a very broad field for usefulness in touching upon those problems which are of general interest to all colleges and universities.

I sincerely hope that the members of this department, not only in these sessions but in future sessions, will so eagerly grasp the opportunities which are presented to discuss and reach conclusions upon the topics mentioned and many others, that such conclusions shall have the weight and influence which the pronouncements of the National Education Association always have on public-school questions.

PAPERS AND DISCUSSIONS

UNIVERSITY ADMINISTRATIVE PROBLEMS OUTSIDE OF TEACHING

JAMES H. BAKER, PRESIDENT OF THE UNIVERSITY OF COLORADO, BOULDER, COLO.

Administrative problems in a university might be dismissed in saying: The conditions are the problem and the fit man is the solution. Or they might be resolved by simply stating them: The problems of administration are to select a good faculty, to organize the faculty, to encourage efficient work, to create an atmosphere of scholarship, optimism, courage, and idealism—in short, to effect a strong internal organization and establish excellent standards. With these an institution will gradually advertise itself.

But we must touch briefly upon the various functions of a president of an American university and the increasing complexity of administrative duties. It is sometimes humorously suggested that there should be five presidents: an executive president, a literary president, a political and financial president, a religious president, and a social president. Surely a position making such demands is one to which many may feel called, but few wisely chosen.

The aphorism of a practical civilization, "We must first live in order to live well," is emphatically true of educational institutions today. The ability to raise money, whether from wealthy men or thru state legislatures is a *sine qua non* for the American university president. It is to be hoped

that in the near future standard institutions will be placed upon an adequate and permanent foundation in order that the executive energy may be used in creating an atmosphere favorable to scholarship and research and conducive to the making of good citizens, and in service to the public. The universities are too much controlled by the spirit of the time, are compelled to measure everything too much by quantity rather than quality. Under such conditions, the executive head must more or less neglect essential functions of his position. But funds must be secured, and usually the president is the director of the forces used to get them. He will find many able and willing helpers, if his administration commands confidence, and he has a way of impressing the importance of his mission and the value of the service which he invites from others. State universities in their demands on the legislature must plead their cause on its merits and avoid all doubtful methods of influence and all political entanglements. Next, the economical and wise use of funds, keeping within the limits of the revenues, maintaining a proper balance in the cost of teaching, cost of buildings and equipment, and in the incidental running expenses—all these things the president is held responsible for by the popular estimate, whether he be merely the adviser or the principal financial agent of the board of control. The confidence of the board in his business acumen, in his acquaintance with the various claims on the treasury and his just attitude regarding them, counts much toward his possible usefulness as adviser. The financial integrity and wisdom of an institution are the first practical essentials. A wise executive will insist that the board be intimately acquainted with all important problems and the reasons for the various demands involving expenditure. But the executive is held responsible for erratic judgments, even when conditions are beyond his effective influence.

The prime essential in advertising an institution is real service, first in its work of teaching and research and in its moral power, second in the interest of every department in extending its influence and helpfulness among the people. If an agricultural college is a part of the university, its service, aside from its instruction and experiments, is evident and is readily appreciated. A school of engineering in addition to its scientific training can aid the economic and industrial interests of a state. Medical schools in the future must not only educate physicians but must study the prevention of disease and the general conditions of health. The college of arts can offer lectures and extension courses and take a part in many public interests which are not strictly political and partisan. But an institution should go slowly in imitating the policy of carrying the university to all the people. The experiment is at an uncertain stage, and it represents a job in paternalism of startling proportions. Of course the time will come in America when scientific knowledge, humanistic training, research and discovery will be recognized as the highest and almost exclu-

sive mission of the university. In proper ways the public which the university serves must be informed of the activities and merits of the institution, and in return therefor financial support may be justly demanded. The relation of the state universities to the high schools is especially important, and again helpfulness is the best means of gaining sympathetic moral support—and this spirit of helpfulness should be mutual. Annual conferences may bring about co-operation and a solution of common problems. An administrative problem is to organize and encourage the proper agencies to reach these various ends.

To secure the practical support of the alumni is always a problem in a young university. Among the formal agencies which have proved useful are: permanent class organization on graduation, local alumni clubs, general alumni organization with paid secretary, a graduate magazine, publishing an alumni register, keeping in touch with graduates thru university literature and by sending representatives to local alumni meetings. In the early growth of a university persistent and hopeful work must be done for years to create a strong alumni sentiment.

The relation of a president to the board of control is a chief problem. Usually the members are eager to be just and prudent in all their legislation. Occasionally an eccentric individual makes a demand on the patience of the other members. But a good board brings a wisdom to its work which deserves respect, and on practical questions frequently has a point of view of vital worth to the institution's welfare. The confidence of the board and harmonious relation with it must be gained. All large questions must be fairly and fully presented and the final decision must be executed in good faith. Sometimes the president must urge the distinction between legislative and executive functions, between fundamental rules and improper interference with affairs which by a wise tradition are usually left to the control of the faculty. An executive who fails here lacks the foundation for successful administration.

The faculty problems are more numerous and complicated. The selection of instructors should be on the nomination of the president, but, if he is wise, he will seek the advice of the department concerned or allied departments. Mere scholarship is not the sole criterion; character, ideals, ability in teaching and in writing and speaking, and especially power of growth must be weighed. In a large university the general faculty may be organized into a council of deans, a senate made up of all the professors and having power to deal with problems common to all the faculties, and finally the faculties of the various schools. Of all these groups the executive should nominally be the presiding officer and should preside at the meetings of the council, the senate and the arts faculty and should appoint all committees of these groups. The general powers and duties of these organizations should be defined by the university statutes. The duties of the faculties should not be merely mechanical and adminis-

trative, but should include the discussion of problems and methods; the spirit should be one of progressive adaptation to new demands and insights. Faculties often maintain an aloofness and unwillingness to regard just popular claims and to keep in touch with new tendencies. Frequently matters affecting the policy of the institution should be referred to the board of control, but decisions within the province of a faculty should be executed in good faith. The president must have needful power to carry out the policies of the institution and to safeguard it at every quarter, but his service will be fruitful as he is a leader and not an autocrat, and as he confides in and uses the judgment and power of committees and represents all the advisory and constructive forces of the institution. People are demanding a still larger administrative responsibility for the general welfare of students, and a more efficient form of organization. The duties of an executive are already excessive, and faculties are overburdened with administrative problems, to a loss of teaching-power. The energy of the president should be devoted more to large questions, to organization, to creating the right spirit in all the departments and affairs of the institution. One writer suggests an administrative department to consist of the following bureaus:

1. Statistics and forms.
2. Waste, i.e., student failures of every kind.
3. College activities.
4. College home life.
5. Health and physical exercise.
6. Bureau for alumni (employment and for studying results of college training).
7. College plant (oversight of teaching staff).
8. Publicity.

This subject needs study and cautious experiment. The plan is expensive. But much of public criticism is just and there is a waste of student possibilities which should be prevented. Conditions which leave the freshman to survive as he may, and, if haply he escapes many perils and finally graduates, without further thought allow him to depart a possibly undesirable citizen, are a crime against civilization, and call for administrative remedies.

The question of discipline may be troublesome but not usually where justice and discretion prevail. Youth has a keen sense of justice and is responsive to common-sense appeals. A co-operative spirit in many affairs of the university should be constantly invited. When misunderstandings arise a frank statement to the student body, or a conference with representatives of classes, organizations, or groups will usually result in accord. The certainty of punishment for unbecoming conduct is more potent than severity. A class or school may be asked to correct mistaken attitudes of its members or make proper restitution for damage to property. I have never known a class to fail in a responsibility of this kind, if the matter was properly handled. Should extreme discipline be necessary,

it should be used without fear. Matters of formal discipline should rest with a small group like the council of deans. But the sentiment of the student body is more important than problems of discipline; cultivation of right sentiment and ideals will remove the causes of offending. It is a vital part of administration to use all forces to develop a high type of manhood. In student assembly and on various public occasions, the best ideals may be presented, but this is not enough. The faculty must be inspired with the spirit of idealism. Alumni, fraternities, student organizations, class officers, all may be enlisted in creating a healthy student sentiment. There should be no doubtful note regarding honor in athletics or in business affairs, clean life, and the quality of a gentleman. Regarding athletic evils some large institutions have been little short of cowardly. More and more the force of public opinion in college life will be used, and student self-control be substituted for faculty discipline. An organization called the Associated Students is found in some universities. In the University of Colorado such an organization has existed for a year and with encouraging results. Its constitution provides for a commission and for the initiative, referendum, and recall. It controls many student affairs including athletics, public debates, etc. It regulates many student customs, and co-operates in university interests. It is subject to the rules of the university Senate and the faculty is represented on the commission and on important committees. Such an organization has in it great possibilities for good, and, if wisely guided, may create something like a revolution in student life.

The president of a university has a difficult position, and many believe that the organization of the American university is not ideal, or what will obtain in the future. Be that as it may, the present organization is a part of the history of the country, of present conditions, and of the spirit of the time, and changes in form of administration will come, if at all, when the country and its institutions have passed thru the stage of rapid development and have reached a more settled condition. A writer on the subject holds that the best to be said of American university presidents is that upon the whole they have not done much harm. In the period of rapid growth and adjustment, the present form of organization is necessary. The executive will find his lot a tolerable one as he has a natural adaptation to his function. If he cannot be a specialist, he may be well read in many lines and keep in touch with the spirit of the time, educational and sociological, and study the necessary adaptation of higher and special education to the real demands of our civilization today. He should present his view on vital themes from time to time from the university platform and elsewhere. He should be an active factor in solving large educational problems for the country, should assume a leadership in reorganizing the American college, and in developing along right lines all departments of university training. He must be a man of thoroness and sincerity, a man who

does more than he promises, a man of character, courage, optimism, and idealism. He should be a leader, not an autocrat. His first study should be the conditions, scope, and possibilities of the institution to which he is called. With all the wisdom that can be gained from all sources, a far-reaching policy should be inaugurated and this policy should be pursued with consistency and firmness. Nothing must be done for mere superficial popularity—this is always harmful, dangerous, and transitory. To seek the respect that is due to strength, justice, and wisdom, and devotion to the vital interests of the institution is the only worthy aim.

DISCUSSION

JAMES K. PATTERSON, ex-President, State University of Kentucky, Lexington, Ky. —For a president to be successful under present conditions he must be of eminent ability, should have received a collegiate or university training, and if possible should be a man of administrative experience. In the election of a new president, altho there are many advantages in choosing a man of marked ability already connected with the institution, it is often preferable to select a man from the outside. A faculty must be homogeneous in character and maintain sympathetic relations with the president. The position should be parallel to that of the President of the United States surrounded by the members of his cabinet, and he should have a free hand in questions of appointment and dismissal. A general policy should be outlined by the board of trustees, and the president is responsible for carrying it out. He should be present at all deliberations of the trustees. A successful president must be just, sympathetic, and filled with the purpose of sending out graduates who fear God and hate covetousness.

COLLEGE AND UNIVERSITY ADMINISTRATION: THE OFFICE SIDE OF THE QUESTION

FREDERICK P. KEPPEL, DEAN OF COLUMBIA COLLEGE, NEW YORK CITY, N.Y.

The administrative officer of an American college or university has to steer his course, like the mariner of old, between two rocks, on one or other of which his academic bark may come to grief. The first is the prevalent confusion to which President Pritchett has called attention so cogently that I need say no more about it—the confusion as to the distinction between government and administration. This bears primarily upon the officer's relations with his administrative superiors and in particular with the trustees or other finally responsible body. The second is the confusion as to the distinction between constructive administration and routine administration. Here the difficulties will lie primarily in his relations with the members of the teaching-staff.

No general theory of academic administration can be evolved in detail a priori for any single institution or indeed for any type of institution. The men like Mr. Clarence Birdseye, who are calling attention to the need of improved administrative methods in colleges, are doing an important work and we owe a great deal to them, but, perhaps inevitably, they are seeking to swing the pendulum too far. It is not likely that the adminis-

trative officers of colleges and universities thruout the country are all of them wrong, and they are, I think, unanimous in their belief that the analogy between the problems of the factory and those of the college is not nearly so close as these men think. In Mr. Cleveland's phrase, it is a condition and not a theory that faces each institution and a condition in each case *sui generis*. The local conditions and the historical background must in every case be considered. It is interesting to see that in no two of the great American universities do we find the same lines of cleavage as to administrative work. This does not mean, however, that we have nothing to learn from one another or from the world outside. In addition to Mr. Birdseye's two books perhaps the most useful material thus far published from this "outside" point of view is Mr. William M. Williams' article on "University Organization and Accounting" in the *American College* for May. From the "inside" there is the report of the Oberlin College Committee upon "Tests of College Efficiency" printed in the last volume of the *Annual Reports of Oberlin College* and also in the *American College* for April and May. This report contains a mass of valuable material and deserves the close attention of all who are interested in college administration.

In view of the fullness of these recent publications it would be foolish for me to attempt here a detailed analysis of the problems involved and the following observations, based upon ten years' experience in the details of university administration, will have served their purpose if they provoke some expression, probably not wholly in agreement, from others who are engaged in the same work.

As our institutions have developed, the position of the presiding officer has attained an importance that it wholly lacks in England or on the continent of Europe. There are those who feel that we have gone too far in this direction, but when one considers the extraordinary development of our American colleges and universities within the past half-century the burden of proof may fairly be placed upon these critics

At all events the crucial point in the whole question with which we are dealing today is the position of the presiding officer, and in this connection there are a few things which it is well for the teacher who by training and temperament is not "institutionally minded" to remember. The first is, that after all the president is a human being and practically sure, in this imperfect world, to make a fair share of mistakes. The thing to consider is his general average of performance rather than his specific shortcomings. As our institutions have developed, he has been given or has been permitted to take, which amounts to the same thing, far too many kinds of duties upon his own shoulders. For example, it is scandalous that in the twentieth century the president of a great institution should be permitted, far less expected, to go out with his hat in his hand. The almost inevitable forgetfulness to consult his colleagues from time to time

on matters which affect them, which ordinarily is due almost wholly to this overloading, is imputed unto him for deliberate arrogance. The poor man is in a position where he gets no credit when he does consult, and is branded as almost criminal when he forgets to do so. As a matter of fact the president can nearly always be guided, but from the very nature of his position he cannot be bulldozed. The university organization is not and never should be, a military hierarchy. The president's position, however, as both the single channel for communication with the trustees (with the best intentions in the world direct communication between individual professors and individual trustees is a source of endless mischief) and the agent after all responsible for the appropriate subdivision of the institution's resources, requires authority commensurate with its responsibilities. The need of a central apportioner is not imaginary. No professor is worth his salt who does not firmly believe that his subject or his department is of greater relative importance than it really is. Indeed the natural temptation to develop their own departments on the part of men who refuse to see that after a certain point this development is at the expense of the whole institution is not the least important reason for our discreditably low level of academic salaries today.

After all the whole question is one of team play. If a professor becomes thoroly out of sympathy with the administration of his institution, he should first try to get his scheme of things adopted, and should try in a spirit of co-operation, not of petulance. If he cannot do this, it is, tho it may be hard to realize, best for him to get out. A good man will have no difficulty in finding another place, because there are not enough good men to go around. If he is in the wrong, which being interpreted usually means if he has seen things out of proportion, he has done absolutely the wisest thing. If, on the other hand, he is in the right and the administration is in the wrong, and if two or three other good men with the courage of their convictions also leave, the administration is going to change. A man would often do more good for the college he loves by leaving it than by remaining to kick against the pricks.

University officers are notorious gossips, and I have talked over these matters with men from all over the country and, so far as I can gather, the difficulties between professors and presidents—barring occasional pathological cases of *la folie des grandeurs* on one side or another—if the fault is with the president, lie in his forgetfulness of one of three facts. In the first place, he cannot be expert in everything. Secondly, his first duty is to the institution of which he is president, and while he should take a fair share in public affairs he should not, under the guise of representing his institution in public, neglect his real responsibilities to it. The world today is full of little people who spend their time arranging meetings and other enterprises which are to be brought to a successful issue only thru the good natured help of those whose names have a certain value with the

public. Thirdly, even if his energies are not scattered by outside activities he cannot do the whole thing himself, and in particular he must not let himself be tied up in routine details. Otherwise he cannot bring a fresh mind to bear upon each new problem as it arises. In order to keep his own decks clear, he should adopt the principal of functional administration now practically universal in business corporations. In other words, he should gather about him, in addition to the deans of the several faculties, a group of executive officers—as many as the resources of the institution will justify, and preferably young college graduates—to whom he should give a free hand in carrying out under his general oversight the routine administration of the institution. In certain cases one such officer may well look after two or even three administrative units; or a man who is doing some teaching or even a man primarily a teacher, may be made responsible for one of them. We must, however, never lose sight of the fundamental fact that this administrative work falls into several easily defined groups, which should not be confused even tho the same man may perform more than one. The more important of these may be roughly stated as follows (it should be noted that the control of the finances, the investment of funds and the collection of fees and other income should be in the hands of a treasurer co-ordinate in power with the president):

The care and development of the buildings and grounds—and here a competent colleague furnishes perhaps the greatest relief to the president.
The keeping of student and other academic records.
The unification of purchases.
The administration of public academic meetings.
General correspondence.
Editorial and publishing work.

Personally I have no doubt all of these tasks can be best performed by men outside the teaching-staff. I am not forgetting that the college should be a democracy and I fully realize that upon all matters of constructive administration, the teacher should have his say, either directly or upon some representative basis. With routine administration, however, and by far the greater share of the day's work *is* routine administration, the teacher should, frankly, have just as little as possible to do. He has, so to speak, been bred to another type and, disregarding the exceptions to which attention could be called in any general statement, his work of routine administration, whether done singly or in committee, is badly and expensively done: badly, because it is not the work in which the man is primarily interested, nor that for which generally speaking he is temperamentally suited—one fault, for example, is that of unnecessary and frequently harassing delay in getting things done; expensively, because we must measure its cost not in terms of dollars and cents but in terms of the contributions to scholarship, in teaching and research, which might be made with the time and energy devoted to administrative routine. The

apparent but fallacious saving in dollars and cents is the reason why administration by faculty committee persists so generally today. The intrusion into faculty meetings of two-penny details dependent upon the application of principles already determined upon after long consideration by all hands, where they waste the time not of one professor of or a small committee, but of the whole group, is utterly indefensible.

Of course we have no idea that the burden of "chores" can ever be removed from the professor. He will always have them and tho he may scold, he really enjoys them. His "chores," however, should bear the fruit of his peculiar preparation and experience. They should either have to do with effective teaching, the pursuit and direction of research, the editing of periodicals; or they should, thru personal relations to students, tend to make the institution, in fact as well as in theory, one great academic family.

There is a second class of administrative matters where the best results can only be obtained by co-operation between the administrative and the teaching officer. Here the work involves both constructive and routine administration:

1. The enforcement of academic regulations of all kinds, including admission of students and the administration of the requirements for advancement.
2. The personal oversight of students in non-academic matters.
3. The appointment of new officers of instruction and the promotion of those already on the staff.

It is in work of this character that the deans find their greatest field of usefulness.

The question whether the deans should be from the form of their appointment the representatives of faculties or of the central administration may in these days of pragmatism be dodged. The red tape of it does not matter so long as the dean is in sympathetic relations with both teachers and central administration. My personal belief is that the best results are obtained when they are not elected by the faculties but appointed upon the nomination of the president in the same manner as other administrative officers. It is not impossible, of course, that a mistake may be made in an executive appointment, but it is likely to be of a kind that will rectify itself more promptly than will the kind of good-natured mistake that a faculty is likely to make in its selection.

The successful carrying-out of the principle of functional administration depends absolutely upon sympathetic consideration and tact on the part of the administrative officer. The places where hitches are likely to occur are, first, in those features of executive work which indirectly become constructive; such things as the editing of announcements, the conduct of correspondence, etc. Here, as I have said before, the situation calls not for formal regulations but for horse-sense and tact on both sides. The second danger comes from the tendency to overload the instructor with

uncongenial work—reports, marks, and the like. From the administrative point of view we now realize the importance of really knowing instead of guessing. The cost account of the factory is teaching its lesson to the college and university. But while the central principle is of the greatest importance we must not forget that its operation requires in academic matters great consideration and sympathy. We must remember that the instructor has not the fun of seeing the result as a whole. His side of it is all uninspiring drudgery. The question, therefore, is how to get the information which he alone can furnish and which we know it is vital for the institution as a whole that he should furnish, with the least wear and tear upon him. In the first place, he must be asked only for those details that are really important. There is nothing easier in the world than for an ingeniously minded youth in an executive position to spin out schemes for reports and statistics that involve unnecessary and intolerable burdens upon his academic elders and betters. No brains in the institution are too high in quality to outline, if necessary in laborious detail, just what results are needed, and how they may be obtained with the greatest economy of the instructor's time and attention. The instructor should never, for example, be asked to do the same thing or give the same mark twice. If more than one executive officer needs it, it should be recorded in the Registrar's office and drawn off from there. The professor should have adequate clerical assistance. We are beginning to realize that a departmental stenographer may be a better investment than an additional instructor. The modern business devices for duplicating can, with a little ingenuity, be applied to academic conditions, and will result in a great saving in routine detail. By a sensible organization of departments the main burden of routine duties can be taken turn about, with no serious loss of efficiency, and a great saving of irritation. Finally, the teaching-officer should always have some natural outlet for complaint when the administrative burden becomes too heavy.

For broader constructive problems, which for the future are likely to lie in the development of the rapidly disappearing frontiers that once lay so clearly marked between the several departments of knowledge, and in new groupings of subjects to meet the new demands that are constantly arising, for these problems the representative university council (or, in a smaller institution, the faculty), in which general subjects may be thrashed out, is a great safeguard. We administrative people chafe under the formalities and delays which it involves, but in our moments of sanity we know that it means building on a broader and surer foundation.

DISCUSSION

C. A. Duniway, president, University of Montana, Missoula, Mont.—I have been impressed with the difficulty of a correct discrimination between problems of legislation and administration, but faculties should legislate, not administer. Presidents and deans

should administer, not legislate. Rather than be an autocrat, a president should endure the evils of occasional unpleasant situations.

JAS. K. TILLMAN, president, University of Arkansas, Fayetteville, Ark.—I do not believe in the plan of a faculty's electing its own president. I desire information as to the experience of others concerning student councils. Replies to this question indicated that success was chiefly dependent upon the personality of the student representatives.

THE RELATION OF THE COLLEGE FACULTY TO FRATERNITIES

W. H. P. FAUNCE, PRESIDENT OF BROWN UNIVERSITY, PROVIDENCE, R.I.

The growth of college fraternities in America is part of a social tendency characteristic of all American life. There are now some six hundred of the so-called "fraternal orders" in this country, and there are some thirty-five different national college fraternities (not counting the sororities) embracing nearly two hundred thousand of the finest men in the United States. The growth of these college organizations in the last thirty years has been silent, but swift and noteworthy. It has been a growth in numbers, in property, in influence on undergraduate life, and in slowly recognized responsibility. At the University of Michigan about $500,000 is now invested in chapter-houses. At Columbia, where real estate is so much more valuable, I am told that nearly $1,000,000 is represented in fraternity property. Under such circumstances fraternities can no longer claim to be merely private organizations to be severely let alone. They are bearers of a responsibility which cannot be escaped. They compete with college dormitories for students. They vitally affect standards of scholarship, they shape athletic methods, they create ideals of honor, of duty, of manhood, they hold the reputation and the character of the college in their keeping—and for all these great powers they must be held to strict account. What now shall be the attitude of the college faculty toward these new powers in the college world? There are four possible attitudes.

1. Prohibition and suppression. This was the attitude of Dr. McCosh at Princeton, where the national fraternities have never gained a foothold. It was for ten years the attitude of the University of Illinois. It was the attitude of the faculty of the University of Chicago for a short time after that institution was founded. But in every case with which I am familiar that attitude has proved a mistake. At Princeton the fraternities were indeed ejected, but many Princeton men will say that the eating-clubs are simply local fraternities with the same inevitable problems. At Illinois and Chicago the opposition of the faculty has long since been withdrawn. Some sort of social grouping our students must have. We cannot expect one thousand or five thousand students to form a merely homogeneous mass in which all personal preferences are forgotten. In the mediæval universities of the Continent the grouping was sometimes by "nations."

If the grouping in our American universities were according to race, or wealth, or place of residence, it would be far more objectionable than now.

Moreover, the attempt at repression of course creates resistance, and the fraternities acquire factitious importance thru our endeavors to abolish them. Probably the opposition to high-school fraternities has been so pronounced as to be overdone. Many evils will die if duly neglected. Prohibition of fraternities by sheer authority is likely to defeat its own object.

2. A second possible attitude of the faculty is the attempt to close the eyes and ignore the existence of fraternities. This is the traditional attitude of our eastern institutions. It has been held by most of our faculties that the college may well refrain from any action touching fraternities, since such organizations are purely student affairs. Of course the same argument would hold against any supervision of athletic, or dramatic, or musical organizations, where our faculties have found frequent interference wholesome and necessary. But for some reason we have felt that fraternities occupy a different ground and that we may well shut our eyes to their existence.

This attitude is no longer reasonable. The great growth of which I have spoken makes intentional ignorance almost inconceivable. Unless we are prepared to affirm that we are not concerned with what our students may do in athletics we cannot affirm that we have no duty toward fraternity life. If "the side-shows have swallowed up the circus," then we cannot ignore our duty to the side-shows. We must deal in some way with the problems presented—deal frankly, firmly, and persistently.

3. A third attitude occasionally adopted is that of minute and drastic legislation, amounting to faculty direction of fraternity action. This is always unwise and sure to create new difficulty. Anything like espionage, like the old-time paternal attitude, anything like fussiness and inquisition, is a species of reaction from the academic freedom which is our heritage. College men are to be treated as men—if they are still small boys, whose lights must be put out at a certain hour and whose footsteps must be watched, they should be sent back to the strict personal supervision of the fitting school.

4. The true attitude of the faculty is that of attempt at sympathetic understanding, constant consultation, and endeavor to enlist fraternity support in the best movements in college life. This is not the easiest method of dealing with the situation, but is the only one that can give enduring results. To announce rules and punish their infringement is always easier than to bring men into cordial sympathy. But the modern college student has both limitless power of resistance to official pronouncement, and limitless power of response to appeal for loyalty and co-operation. The entire movement of college life today is toward some form of student self-government. The movement is often most effective when

quite informal. There need be no "senate" or "council" or "senior society" or "honor system," but there may be and should be a steady appeal from faculty to students for aid in maintaining desirable traditions, worthy ideals, and crushing out all that is base and mean. The student response to such appeal is sometimes surprising. Students are usually far more severe than faculties in meting out punishment for real offenses. They are far more effective than any police force in maintaining order, more effective than any preacher in upholding ideals. When made serious by acceptance of responsibility for his fellows, the American student becomes the ally of all that is most desirable in college life and the mainstay of the administration. In many colleges today the fraternities offer the machinery thru which the student body is effectively directed and controlled. "I have found," says President Guy P. Benton of Miami University, "the college fraternity a most potent factor in maintaining standards, both of scholarship and morality." Provost Harrison declares: "The fraternities constitute one of the very best aids in the control of our large student body." "On the whole," says Dean Clark of the University of Illinois, "I consider the moral tone of the fraternities somewhat above the average of the general student body." Where the moral tone of the fraternities is lower than that of the non-fraternity students—as it obviously is in some places—the cause may lie in the fact that the college has given no thought to the direction of the vast social and moral power which the fraternities represent. How then may this power be harnessed into the service of character-building in American colleges? Can such a result be achieved?

It is often achieved indirectly thru developing a sense of responsibility in prominent alumni. In some fraternity houses an influential alumnus always resides. In nearly all cases there is an alumni committee, vitally interested in the welfare of the organization and quick to feel either stigma or honor attached to the organization. A single alumnus may influence the whole tone of a fraternity chapter for a quarter-century. He may be a physician, called in to attend any case of illness. He may be a man of means who has loaned money to the chapter. He may be simply a forceful and persuasive personality.

Of course this influential alumnus may throw his influence on the wrong side; then the problem is to replace him. A strong alumni committee may for this reason be better than a single man. At times it may be necessary to appeal to the whole group of the alumni of a particular chapter. If we may appeal to alumni for loyalty manifested thru gifts to endowment, may we not appeal for gifts in the form of moral reinforcement, of social direction, of persistent friendship for undergraduates? If we may ask them to secure for us new students, may we not seek their aid in safeguarding and developing the students we already have? They are rapidly coming to recognize their new responsibility, and in that sense

of responsibility a college administration may find a constant source of strength.

But this co-operation may be more directly secured from upper-class men in the local fraternity chapter. A group of strong and loyal seniors is the best asset a chapter can have. They frequently "coach" the under-class men, and may be more influential than all his teachers in the case of an individual student. The administration of the college should explain to influential seniors its general policy, point out weaknesses in the past, hold up the vision of a possible future, and ask for aid in reclaiming students who are morally flaccid and wobbling. Nothing develops students like being trusted. Nothing so honors them as being asked to assist in helping others to a higher level. They will talk freely, if they know that the information given will not be used for purposes of discipline. It ought to be possible for such men to discuss freely undesirable conditions, with full assurance that the information they impart is confidential, just like information given regarding one's own family or relatives. There is a vast difference between an informer seeking to get others into trouble, and an adviser seeking to get his friends out of trouble, and every worthy executive realizes that difference. Students will on this basis frankly state facts, assured that such facts will not be used against them or their friends, but used only as the basis for wise and sympathetic measures of relief and improvement.

This direct consultation may lead to requests for aid on the part of the fraternity. Sometimes the request is for the standing of each member of the fraternity in his classes, in order that the fraternity may warn or coach any student who is in danger of failing. Such a statement given to each fraternity in confidence would be a means of stimulus and incentive. Any aid that the college can legitimately give to a group of its own students should surely be given. Such aid will assist the college in demanding, as it must, that no fraternity shall harbor in its house any student who is suspended or expelled. The fraternity may at such a time be inclined to assert that the chapter-house is private property and that the college has no right to eject any student. But no fraternity can afford to press such a claim, whether legal or not. No fraternity can afford to become a refuge for offenders against the law of the college community. If it acquires such a reputation it will surely suffer when the next season comes round. The college must regard every fraternity house as a part of the college property, a section of the academic home. A student who is banished from the class-rooms for failure in scholarship or character is *ipso facto* banished from the chapter-house also. Indeed I have known a fraternity to come to the dean of a college and beg for his help in removing a student who had dropped out of college but continued to remain in the chapter-house, living in idleness and injuring the morals of the chapter.

The college cannot tolerate the existence of any buildings in which groups

of students are housed unless such buildings are in some sense a part of the college property. All such buildings must be subject to sanitary inspection satisfactory to the college authorities. They must be free from practices which the authorities consider damaging to the reputation or the character of the institution. They must be open to visitation from college officers at such times as the college may deem wise. They must never be used to shield students from college discipline. They must be subject to such regulation as the authorities may approve, in the matter of receptions and entertainments and the use of intoxicants. The authority of a college over its students is limited only by the law of the land.

But the assertion of this unlimited power is another matter. Happy is the institution where the bald assertion of power is never made, where authority is so exercised that the students are unconscious of it, where the students are so consulted and advised and quietly led toward worthy standards that they seem to make the laws which they obey. Happy is the institution where the students in a fraternity house voluntarily adopt the ideals of the college faculty and reject all else. Men may do as they please when they please to do right.

Such co-operation of faculty and fraternities is needed to bring about certain pressing reforms in our present fraternity life. The "pledging" system and the "rushing" system of the present day are full of evils. Students are frequently pledged, before the end of their high-school course, to an organization of which they know nothing, and to which they are expected to be loyal thruout their lives. In many cases the student bitterly regrets his choice, and leaves the college when he discovers his irrevocable blunder. In many cases the fraternity finds it has loaded itself down with an uncongenial and undesirable member. Yet in some western states this pledging frequently occurs in the first year of the high school. A reform in the pledging and rushing systems is however almost impossible apart from faculty assistance. The regulation of social events and the maintenance of proper social atmosphere, the cultivation of simplicity and democracy, of refined manners and usages—all these things can best be attained where college officers and college students are frequently meeting to consult and to plan. An ounce of advice when evils begin to appear is worth a ton of discipline after the evils are full-blown and defiant. Five minutes spent in getting a good student to become responsible for a feeble and wandering brother is worth three hours of exhortation to evildoers and threatenings of judgment to come.

In one college of my acquaintance an undesirable fraternity of generally unsavory reputation suddenly appeared, and announced the formation of a chapter. Instead of abolishing the new society by fiat, the dean called together the other fraternities and asked them to take action. Within two weeks they brought such pressure to bear on the new organization that it was quietly and permanently dissolved. In one eastern college a group of

Jewish students asked permission to form themselves into a fraternity. The president was opposed by principle to any organization of students founded on racial or religious distinctions. Before giving his answer, however, he called the other fraternities into conference. They unitedly agreed with the president's position and offered to support him. When his reply was made, absolutely prohibiting the formation of the new group, he thus had with him the support of all the leading men in college and his prohibition became effective and irresistible. Scores of questions are constantly arising where the bare assertion of power is a mistake, where the end can be attained noiselessly and almost imperceptibly by merely enlisting the aid of the chief social groups which the college contains.

If it be said that this is a dangerous proceeding, since it brings down the college officer to the level of a mere adviser, I would answer, The college officer is no longer an absolute monarch, or even in *loco parentis*. He is no longer to maintain himself thru fear, but should seek for understanding, sympathy, and co-operation. If it be said that to ask student advice is to oblige oneself to follow it, I answer, I have never yet known the leading students in any American college, after time was allowed them to think and discuss—I have never known them to choose the evil rather than the good. On the contrary I believe their judgment in a question of conduct is more likely to be normal and unsophisticated and absolutely just than the judgment of some of the specialists on the average college faculty. Training for a Ph.D. in mathematics of the fourth dimension or writing a thesis on the color-epithets in Homer may not be as good equipment for deciding social and moral problems in college life as is afforded by living in a dormitory or playing on a baseball team. *Securus judicat orbis terrarum*, which being interpreted may mean: On simple questions of duty a thousand students who have taken time to think will not go far astray.

4. Such co-operation will naturally lead to a friendly attitude toward the national fraternity organizations. It is of course undesirable that the faculty or the administration should consult officially with any national body, just as it would be unwise for the college to have official relations with any corporations save those of other colleges. But the traveling secretary of a national fraternity may well be cordially received. Thru him much can be accomplished. It is no uncommon thing for the dean of a college now to receive requests from such secretaries for full information concerning the standards and ideals of the local chapter. Thru these national affiliations the local group gains vastly in wisdom, poise, and strength. The only secret society that is always to be feared is a local society, having no wisdom or inspiration outside itself, submitting to no check from its peers, fearing no tribunal outside the walls of the college, and having no sense of national dignity and responsibility. Our national fraternity organizations have, so far as I know, never attempted to dictate to the colleges. They have erred not in the direction of too great assumption of power, but in the

direction of irresponsibility and indifference. At last these fraternities are awaking from their sleep. They are coming together in an annual conference. They are revising constitutions, raising standards, sending out secretaries, studying local evils and their remedy. It remains for the faculties also to bestir themselves, and to meet these organizations at least halfway. Since some social groups must exist, let us utilize those we now have —utilize them in seeking for higher standards of scholarship, character, and preparation for American life.

DISCUSSION

Ralph K. Jones, Librarian, University of Maine, Orono, Me.—Of the various problems in the relations of faculties and fraternities perhaps the most important is that due to the effect of fraternities upon the scholarship of their members, indicated by the publication of statistics at various western universities which have shown that the work of men in fraternities was distinctly inferior to that of the non-fraternity men in the same institutions, as well as by the interesting studies of President Schurman of Cornell on the same subject.

In order to have definite information as to just what present conditions are, a brief circular letter was sent out a few weeks ago for the purpose of obtaining information as to what is now being done to stimulate good college work by members of fraternities. This was sent to the general fraternities and to the ninety colleges that contained five or more chapters of general fraternities at the date of publication of the latest edition of Baird's *American College Fraternities*.

Replies were received from eighteen of the thirty-one fraternities, and these eighteen included those embracing four-fifths of the total number of chapters. They included, with one solitary exception, every fraternity having over twenty-five chapters, and with the same exception, every fraternity of western or southern origin.

Of the ninety colleges from which inquiry was made, thirty-seven are eastern, twenty-four southern, and twenty-five western. Although half of the southern and a third of the eastern colleges did not reply, only four of the twenty-five in the west failed to do so.

The percentage of replies from both fraternities and colleges indicates a far greater interest in this matter in the West than in the East.

The replies from the fraternities, with hardly an exception, indicated that the necessity for improvement of scholarship is recognized by them, and nearly all either have already adopted some system looking toward this result or are now considering the subject with a view to deciding upon something in the near future. Among the plans already in operation by fraternities are the following: careful investigation of each chapter by a visiting officer who obtains full information about the standing of his men from the college authorites; similar investigations by other fraternity officials; investigation of each chapter twice a year by one of its own graduates who reports to the fraternity; obtaining statements from the college authorities by the fraternity officers of the standing of their undergraduates; awarding honor certificates to those who attain a certain degree of efficiency; requiring chapters to obtain statements of the standing of their members from college authorities to be forwarded to the fraternity officials; requiring all freshmen to observe study hours; requiring all chapters to place each initiate under the supervision of an upper-class man whose duty it is to watch over all his activities.

Among the noteworthy practices at various colleges, by the college authorities, are these: appointing a member of the faculty for each chapter as an adviser, it being his duty to keep himself informed of the condition of the work of those under his charge and to confer with those in danger of falling behind; appointing a member of the faculty

as one of a committee for each chapter in which the other members are an alumnus of the chapter and two undergraduates, and furnishing this committee with necessary information; giving each chapter at frequent intervals information as to the standing of delinquent members and in some cases pointing out apparent reasons for delinquency; making public the relative standing of all fraternity chapters and other college organizations; posting the records of all freshmen and sophomores in a dean's office where they are open to inspection by all; prohibiting the initiation by the fraternities of conditioned freshmen; prohibiting the initiation of any student until he has completed a minimum amount of college work; prohibiting the attendance of freshmen upon more than a limited number of specified social functions; prohibiting the holding of social functions on other than Friday or Saturday evenings.

In order to secure undergraduate opinion, the circulars were sent also to the chapters of one of the larger fraternities, one that has not enacted any legislation, but whose general officers have endeavored to impress upon the undergraduates the necessity for maintaining themselves creditably in their college work, and for which recent statistics show that for the ten years ending with June, 1909, practically 50 per cent. of its initiates have graduated, or 8 per cent. more than the general average for all college students. Of its about seventy chapters, nearly one-half replied. These replies from the undergraduates were not the least interesting received. Without an exception, the letters that were received indicated that some plan was in use whose purpose was to encourage good scholarship. Among the most interesting were these: appointing a scholarship director charged with the duty of obtaining information as to the standing of all members of the delegations from the lower classes and charged with the duty of seeing that tutors were provided where necessary; maintaining a committee of upper-class men with similar responsibilities; furnishing blanks to instructors with a list of men in their classes concerning whose work information was desired, with a request for a statement of opinion as to the cause of delinquency where such existed; asking for a similar statement from the college office at regular intervals; sending return postal cards to instructors for statements concerning the work of delinquents; reading grades of all members at regular meetings, with commendation of those doing good work and urging improvement by those in whose cases improvement was necessary; using the "big brother" system by which each initiate is placed under the special oversight of an upper-class man who supervises all his activities; electing a member of the faculty as an adviser, having him meet with the chapter once a month and having free discussions over cases of individual scholarship and morals, as well as about fraternity and college matters in general, all information obtained in this way being regarded by the members of the faculty as strictly confidential.

There are a number of different movements related to the subject under consideration which deserve special mention. One of these is the Interfraternity Council at the University of Nebraska. This was organized five years ago for the purpose of discussing and regulating all matters relating to fraternities that the council cares to discuss. It is composed of one undergraduate member and one alumnus of each academic fraternity (not honorary or professional), and one member of the faculty. It has enacted legislation regulating the dates for pledging and initiations and for the entertainment of new students, and has required that no student be pledged or initiated whose name appears on the delinquent list. That it has accomplished what has failed in other places is due to the fact that the council is recognized by the regents of the university and given power by them to enforce its regulations, to the extent of depriving any fraternity that violates its rules of the right to pledge or initiate for a year and making any student pledged or initiated in violation of its decree subject to expulsion from the university.

Publicity given to relative standings has been a powerful stimulus at some institutions in bringing reform where reform was needed.

At the University of Wisconsin the Interfraternity Conference awards a cup each year to the fraternity having highest rank for the year, it being held each term by that

one which has highest rank the preceding term. At the University of Maine, a senior society has given a cup to be held each year by the fraternity ranking highest the preceding year, to become the property of that one who holds it the largest number of times during a period of twelve years.

At a number of colleges the undergraduates have adopted a point system, under which the so-called outside activities in which one student may participate and the number of offices he may hold are restricted to a reasonable amount.

The Ohio Wesleyan plan of the election by each fraternity of a member of the faculty, preferably one of its own alumni, as a confidental adviser has been adopted at a number of institutions.

Altho aside from the subject under consideration, the practice at Amherst of having each fraternity house inspected annually as to sanitary conditions and protection in case of fire by committees composed of the college physician, the college treasurer, and an alumnus of each fraternity, deserves mention.

Last summer, at the suggestion of the Religious Education Association and upon a call by President Faunce, an Interfraternity Conference was held in New York City at which twenty-six fraternities were represented. It appointed a committee on the relation of fraternity chapters to the college administration, and this committee is to report at a second conference to be held this summer.

The importance to the colleges of the movement among the fraternities for higher scholarship will perhaps be appreciated better when we realize that nearly seventy per cent. of the entire number of men undergraduates are in attendance at the colleges in which fraternity chapters are maintained, and that one-fifth of all of those in the fraternity colleges are members of these organizations. There can be no question that this one-fifth embraces those who are most popular, most prominent, and most influential, and whatever stimulates this body of leaders must inevitably exert a vital effect upon the ideals and the life of the entire undergraduate body.

It is surprising, and if the same report had not come from more than one source among fraternity officials as well as undergraduate chapters, it would be almost incredible that there are college registrars who have refused to supply information solicited for the purpose of promoting good work by undergraduates, and that only too often efforts to secure the co-operation of individual instructors have resulted in complete failure.

The fraternities, working thru their general organizations if they are given the sympathy and assistance of college faculties, will do more in five years to bring about radical improvement in the college work of undergraduates than the entire faculties of the one hundred and seventy-three colleges in which fraternities exist can accomplish by themselves in five times that period.

Professor W. T. Chase, Beloit College, Beloit, Wis.—The problem of the non-fraternity students has been met at Beloit by the organizations of non-fraternity men and women, subdivided into sections.

Dean F. P. Keppel, Columbia College, New York City.—The fraternities at Columbia would welcome action by the authorities which would restrict the initiation of freshmen to those who have satisfied the entrance requirements.

Rev. J. M. Foster, Second Reformed Presbyterian Church, Boston, Mass.—The church to which I belong requires separation from all secret, oath-bound lodges as a condition of membership. We have a college in Beaver Falls, Pa., named Geneva College. No Greek letter fraternity is allowed in the student body. Our reasons for excluding all secret orders from the institution are:

1. Because they are essentially selfish. They divide the students into cliques and are damaging to the college *esprit de corps*. One fraternity aims at elocution. The students who have oratorical gifts are invited, while those who are not so talented in this

line are left out. That is, the students who need help in this department are not chosen, and those who do not need it are asked. Another fraternity seeks social excellence, and the students who are the brightest social lights are taken, and the others left. So again, those who need encouragement are denied it, while those already well up are given this help. A third seeks literary excellence, and the same state of things prevails; so that the selfish and not the benevolent spirit is cultivated by these orders.

2. Because they are secret, and so directly contrary to the policy of our Lord, who said: "I ever spake openly and in secret have I said nothing." You could not conceive of the boy Jesus entering a Greek letter fraternity and, putting his hand over his heart, swearing in the name of Almighty God ever to conceal and never to reveal the sayings and doings of the lodge. And if he would not do it, we should not encourage our boys to do so. Secrecy is darkness and belongs to Satan's empire. Christ is the Light of the World. His people have been brought out of darkness into His marvelous light.

3. Because they prepare the students later to join the more objectionable orders, such as Free Masons, Odd Fellows, etc. There are 11,000,000 members in the secret oath-bound lodges of the United States. They are the deadly upas. The college fraternities are its roots. Let them be cut off. "And now also the axe is laid at the roots of the trees."

COLLEGE DISCIPLINE

THOMAS ARKLE CLARK, DEAN OF MEN, UNIVERSITY OF ILLINOIS, URBANA, ILL.

The greatest handicap in my experience to successful college discipline is the excessive number of rules laid down by the colleges for the conduct of students. Too many college officers feel that when an evil exists, or an erroneous custom prevails, the only thing necessary is to pass a regulation against the evil, or the custom, and the matter is settled. The real fact is that generally the more rules an institution has, the more difficulty the college officers find in maintaining good discipline, and in keeping the young people within bounds.

It is safe to take for granted that young people of college age know in the main what is right and what is reasonable as to conduct, so that it is not necessary that every sin in the decalog, or that every violation of the law under the statute, should be named in the college catalog and the penalty for its violation attached. Rules often prevent individual action in specific cases. Every violation of good order should be taken up, looked into, and judged as if it were the only one of its sort. Rules often hamper such judgment. Many college rules are virtually a dead letter because they are difficult or impossible of execution, and the existence of such regulations can do nothing less than bring the whole system of college statutes into ridicule and disrepute. I believe, for illustration, that it would be a most excellent thing if college students did not visit saloons, for I have known very few students who were not to a greater or less degree injured by such a practice. It seems to me, however, usually worse than useless, and in fact often harmful, for a college to make a rule prohibiting students from entering saloons, because it is so evidently a rule unlikely or impossible to be enforced.

More than this, the very existence of regulations will frequently incite students to insubordination that would not otherwise have been thought of. "I've just discovered," one freshman said to another, "that it's against the rules to smoke in the quadrangle. Now, I suppose it will make me sick, for I don't care much for smoking, but I couldn't let a thing like that go by without having a try at it." I am not arguing against regulations *per se;* some of course are necessary for the proper conduct of any business or institution, but the fewer the better, and then only those which are absolutely necessary.

The young person who enters college is on a different basis, and should receive different treatment, from the same person in the high school. He is more nearly an adult, and he should be treated as such. He is more independent, more upon his own responsibility, and so far as possible he should be left to manage his own conduct and his own affairs. The more he can be let alone the better. This last statement does not mean in any sense that no one should know what he is doing. Much of the trouble that occurs in college—nearly all that occurred in my own undergraduate days—comes from the fact that rules more or less arbitrary and often foolish are made in the belief that such legislation will in itself correct any tendency to wander which the undergraduate may evince. Seldom is any effort made to keep an eye upon the young student, and to forestall any dereliction into which he may fall. The best way to manage the student guilty of misconduct is to look after him so personally and so carefully that he may be brought to account just *before* he has been guilty of the act that would subject him to discipline. This last statement may seem like a paradox, or an Irish bull, but I am sure that the most skillful disciplinary work which I have ever done in the ten years during which I have been a disciplinary officer has been connected with the things that never happened, because they were not allowed to.

Granted that the college has made few rules, and that there is someone who keeps himself pretty thoroly conversant with what is going on, there will still be infractions of regulations, and necessity on the part of college officers to exercise authority. Youth is still young and irresponsible, and is quite as likely to be guided by impulse as by judgment. In my own undergraduate days, twenty years ago, when a young fellow had been drunk, had danced in a college hall, had carried away the campus fence to add fuel to the bonfire in celebration of Hallowe'en, or had backed the cannon into the sluggish stream that flowed thru the campus in order to show his disapproval of compulsory military drill—when he had done any of these things and was caught, he was brought before the entire faculty assembled in most serious session, and here he was tried. It is a harrowing experience, as some of us well know, and one not likely always to bring justice. A man may perhaps make a good teacher, or a good scientific investigator, without making a good judge. When an entire faculty deliberates on disciplinary matters

there is likely to be too much talking, some wrangling, and uncertain conclusions. The responsibility is too widely scattered, and the student and good order are sure to suffer.

Disciplinary matters will be handled more satisfactorily to all concerned if put in charge of a small body composed of from three to five persons chosen because of their knowledge of student life and conditions, and because of their special fitness to give reasonable and sympathetic judgments on the cases that come before them. The members of such a committee should be young, or should have once been young with the memory of that time still in mind. They should be broad-minded and above petty prejudices. They should still be interested in the things outside of books that interest normal, healthy young people—such as athletic sports and social pleasures. They should have backbone enough when an unpleasant thing has to be done, and ought to be done, to do it even tho it hurts some students, and some fathers and mothers. Ordinarily I should not consider it a calamity if neither women nor lawyers were on such a committee. Women are more often than men influenced by their prejudices or their emotions, and lawyers are likely to insist upon a "legal" conviction. Conditions are such that a man should often be allowed to go free who has really violated a college regulation, while another man who cannot be proved guilty of any actual dereliction may yet clearly be proved a detriment to the community, and should be sent away.

In institutions where both men and women are in attendance I believe it will often be found of advantage for a different committee to pass upon the cases of discipline of women from the one which considers the cases of men. Men and women are so different, especially young men and young women, in the crises which matters of discipline bring, that I believe they may very well be handled by people of somewhat different temperaments. Men, for instance, I have found will almost always tell the truth about their own escapades, being careful, of course, not to bring in any of their companions, but shielding themselves very little; while girls, under similar conditions, from sheer nervousness or terror, will often tell the most palpable untruths.

Whether or not such a committee should be given absolute and final power, or should report its findings to the faculty, or to some higher power for confirmation and final action, will depend upon local conditions. Whichever method is employed the findings of such a committee should virtually be final, or its power and influence will count for very little.

In such a disciplinary committee as I have discussed the general management should be in the hands of a chairman who should be a man of experience and judgment, well acquainted with students and student activities, and he should allow only such matters to come before the committee for trial as cannot be settled in some more amicable and satisfactory way. Cases requiring discipline may be reported to him either directly or thru the proper college officer.

A disciplinary officer to be successful must have the confidence of both students and faculty. The faculty must feel that matters given into his hands will be dealt with squarely, and without delay. No college instructor wishes to be humiliated by having matters of discipline which he reports either ignored or treated lightly. Neither should he feel that he is compromised if every student whom he reports for discipline is not found guilty. I have known college instructors who refused to report cases of alleged cribbing, because of the fact that a student previously reported had not been found guilty by the disciplinary committee. It was not justice they desired, but conviction. Many instructors are annoyed by what they consider unnecessary delay in disciplinary affairs. They do not realize that it takes time to assemble committees, to gather facts, and to come to conclusions which will do justice to everyone concerned.

No disciplinary officer will get on well unless he has a reputation for playing fair. If the college officer is willing to give the square deal, he will have gone a long way toward solving his official difficulties. He will sometimes have to listen to some long stories, he will perhaps have often to go a long way and suffer some inconvenience to discover necessary facts, but the college students whom I have known have for the most part been square, and have been willing to take without complaint or whimpering what was legitimately coming to them for their misdeeds, when it was shown to them that the college officer was inclined to do the fair thing.

I long ago learned that it will never do to reach a conclusion with regard to any matter under dispute without hearing both sides of the story. No matter how damaging or convincing the evidence may be, it is always best to hold one's judgment in abeyance until the accused party has been heard, and given a fair chance to defend himself.

Only a few days ago a woman called me up to settle a dispute with reference to an alleged agreement which she had had with a student. "Should not a student who has rented a room for a semester, and who leaves before that time, pay for the whole semester?" she asked. "Ordinarily, yes," I answered, "but I should like to talk to the student before answering." And when I did, I found that in reality the woman had violated her contract, but wanted still to hold the student to his.

It is never advisable to convict a man on circumstantial evidence, no matter how convincing it may appear to be. The committee of which I am chairman in my own institution have made it a rule to give the student the benefit of the doubt unless the case is clearly proved. We have never felt that we have lost by this method, for even tho some guilty ones have escaped we have always been able to justify our actions, and to hold to our decisions.

This last point is a really important one. Whenever a disciplinary body gets a reputation for reversing its decisions, or changing its action at the first appeal, it loses force and influence. It is no light matter to send a man

away from college; it may deprive the student of his chances of an education, and it is a disgrace and a sorrow to the family at home not easily borne. For that reason, such action should be taken deliberately, with a clear notion of what the facts are, and what the punishment means. Being once taken, unless new evidence is presented which alters the circumstances and presents new conditions, it should not be reversed. Any college disciplinary body will have to withstand tears and promises of reform, petitions and the onslaught of influential friends. If the decision was right, however, it should stand; if it was wrong, it should never have been made.

Whenever a disciplinary officer shows unusual consideration for the position or the connections of anyone under examination, he loses his grasp of the situation. A student should not be shown favors because he is someone's son, or because he is related to someone who has social position or influence. Everyone should be treated alike so far as his social position is concerned.

Personally I have found the greatest help in the solving of disciplinary difficulties in the students themselves. I should have far more trouble than I do were it not for the reliance which I have upon individual students, and student organizations, to help control situations. One of the main reasons why I have favored fraternities, and other social organizations among students, is because I have found them of the greatest help to me in controlling and directing student activities, and in preventing dissipations and outbursts which might otherwise occur. One active student leader can help immensely to keep things under control.

One of the greatest difficulties of student discipline lies in the changing character of the student population. Every year, perhaps one third of the student community is new, and must become accustomed to the traditions and the regulations of the college. Whether this number consists of one hundred or one thousand, it should be someone's business to get acquainted with these freshmen, to know so far as possible who they are, where they come from, where they live, and what they are doing. If students have the feeling that some college officer knows what they are doing, and if the college officer goes far to make this feeling a reality, the problems of student discipline will be minimized. We are coming more and more to see, I believe, that tho college students should be allowed so far as possible to think and act independently, they should be so situated that someone will know what they are doing; then, if trouble is brewing, someone will know where to look for it, and perhaps how to prevent it; if not, he will at least have a more intelligent idea of how it may be ended with the least friction on student and faculty.

If a man hopes to succeed as a disciplinary officer he must keep closely in touch and sympathy with student life and student activities. He must be willing to praise the virtuous, to commend the worthy as well as to pass

judgment upon the derelict. The wider his acquaintance the better; the more fully he understands human nature the easier will be his task. He must often know a great many things which he does not tell, tho he must not tell things which he does not know. He will not lose if he sometimes does the unexpected thing, and no matter how many years he may live he must always be young.

DEPARTMENT OF NORMAL SCHOOLS

SECRETARY'S MINUTES

OFFICERS

President—Joseph H. Hill, president, Kansas State Normal College ..... Emporia, Kans.
Vice-President—D. McGregor, resident regent, State Normal School ..... Platteville, Wis.
Secretary—W. S. Dearmont, president, State Normal School ... . Cape Girardeau, Mo.

FIRST SESSION—Wednesday Forenoon, July 6, 1910.

The Department of Normal Schools met at 9:30 A.M. in the Second Church, Copley Square.

The meeting was called to order by the president of the department, Joseph H. Hill, president of the Kansas State Normal College, Emporia, Kans.

President Hill addressed the department on the subject, "The Distinctively Professional Content of Normal-School and College Courses."

President Hill's address was followed by a paper by Guy E. Maxwell, president, State Normal School, Winona, Minn., on "Legitimate Spheres of Influence of the Normal School in Public Education."

This paper and the address of the president were discussed by John R. Kirk, president, State Normal School, Kirksville, Mo., followed by John F. Sims, president, State Normal School, Stevens Point, Wis.; A. O. Thomas, president, State Normal School, Kearney, Nebr.; Z. X. Snyder, president, State Normal School, Greeley, Colo.; Miss Louise Connelly, superintendent of schools, Summit, N.J.; Frank Webster Smith, president, Paterson Normal Training School of New Jersey; and John W. Cook, president, State Normal School, De Kalb, Ill.

SECOND SESSION—Friday Forenoon, July 8, 1910.

The Department of Normal Schools met at 9:30 A.M. in the Second Church, Copley Square. The meeting was called to order by the president.

The general topic of the session was "The Special Preparation of Teachers for the Rural Schools." The first paper, by W. S. Picken, principal, Western State Normal School, Hays, Kans., discussed "Preparation thru Secondary Schools." The second paper, by Walter E. Larson, inspector of rural schools, Madison, Wis., dealt with "Preparation thru the County Normal School." In a third paper, Ernest Burnham, director of Rural School Department, State Normal School, Kalamazoo, Mich., presented "Preparation thru Special Courses in the Normal Schools."

The general topic of the morning was discussed by John R. Kirk, president, State Normal School, Kirksville, Mo.; W. S. Dearmont, president, State Normal School, Cape Girardeau, Mo.; Chas. P. Cary, state superintendent of public instruction of Wisconsin; William A. Baldwin, principal, State Normal School, Hyannis, Mass.; John W. Cook, president, State Normal School, De Kalb, Ill.

A report of the Committee on Simplified Spelling, and also a report of the National Committee on Agricultual Education, were presented by Homer H. Seerley, president of State Teachers' College, Cedar Falls, Iowa.

Both reports were received and ordered printed in the proceedings of this department.

The Committee on Nominations reported as follows:

For *President*—D. B. Johnson, president of Winthrop Normal and Industrial College, Rock Hill, S.C.

For *Vice-President*—William J. Hawkins, president of State Normal School, Warrensburg, Mo.

For *Secretary*—Guy E. Maxwell, president of State Normal School, Winona, Minn.

The Committee on Resolutions reported as follows:

The Normal School Department of the National Education Association declares as follows:

1. The true function of the normal school is to prepare teachers for all grades and kinds of work in public schools.

2. Since the members of the faculties of the normal schools should be men and women of unimpeachable character, broad, thoro scholarship, and skillful teaching-power, equal in qualifications to those demanded in other institutions of higher learning, we believe that salaries paid to our faculty members should be equivalent to those paid in any of the higher institutions of learning.

3. Since our work ranks in importance with that done in other higher institutions of learning, and even outranks it in public usefulness, the members of our faculties should be entitled to the same privileges accorded to members of faculties in those institutions, including the privileges of retirement funds.

4. This department commends and approves the United States Senate Bill No. 8809 concerning vocational training.

Committee { H. H. Seerley, of Iowa, *Chairman*
W. J. Hawkins, of Mo.
John F. Sims, of Wisconsin }

It was moved by John W. Cook, of Illinois, that a committee be appointed to correspond with Mr. Andrew Carnegie in regard to the possibility of the normal-school faculties participating in the benefits of the Carnegie Foundation. F. F. Murdock, of North Adams, Mass., John W. Cook, of De Kalb, Ill., Frank W. Smith, of Paterson, N.J., discussed the question, after which the motion was adopted. The committee appointed was:

E. Oram Lyte, principal of First State Normal School, Millersville, Pa., *Chairman.*
John W. Cook, president of Northern Illinois State Normal School, De Kalb, Ill.
Guy E. Maxwell, president of State Normal School, Winona, Minn.

On motion the department adjourned.

W. S. Dearmont, *Secretary*

PAPERS AND DISCUSSIONS

THE DISTINCTIVELY PROFESSIONAL CONTENT OF NORMAL-SCHOOL AND COLLEGE COURSES

JOSEPH H. HILL, PRESIDENT, KANSAS STATE NORMAL SCHOOL
EMPORIA, KANS.

The work of the American normal school as it was organized seventy years ago had for its specific purpose the training of elementary teachers. The early workers in the normal schools thought only of the training of elementary teachers as a function of the state because the idea of popular education that was just coming into public consciousness was itself a limited concept and the notion of the common public school supported not only by all the people was the notion of an elementary school only; but the normal school, from the beginning, rested upon this proposition as fundamental—that training for the teaching vocation is a special training different in aim and differentiated in method from the general training that is assumed to be

the function of the school in preparation for life. In the beginning it is not strange that undue attention perhaps was given to the devices of instruction, to formal, or if you please, normal method. We had yet to develop, we are only now developing, a philosophy of education; but with the development of that philosophy of education, as our concept of the meaning of education broadens and our view of the processes of education becomes more truly scientific, there is in the very nature of the case increasing emphasis to be placed upon the idea that training for teaching, to be adequate and effective, must be a distinctive training; in the best sense of the word, as our ideal grows, professional.

In the three-quarters of a century since Horace Mann and Henry Barnard and their coadjutors began laying the foundation of a common-school system in America, the American common school, the community school, has immeasurably expanded in the scope, the magnitude, and the significance of its activities. The public high school as an integral and universally accessible part of our common-school system is the product of our educational generation. The community school, beginning with the kindergarten and continuing thru the grades, commonly known as the high school, is legally and logically a unit. The cleavage between the so-called eighth and ninth grades is merely historical, not logical; and the logical basis of the normal school in the beginning, namely, the proposition that if the state is to maintain its schools, it must train its teachers, applies with equal force to every part of the system of community schools from the kindergarten thru the high school. For this fundamental concept more positively and directly than any other educational agency, the normal school stands today as it always has stood; and with this naturally and properly expanding meaning of the concept, the just-now-developing normal college is a legitimate evolution.

So far as the convictions of this body are concerned, the acceptance of the propositions just set forth is a matter that has passed beyond the stage of discussion; so far as the entrance by the normal schools in an organized and effective way into every portion of the field of common-school teachers' training is concerned, the matter has passed beyond the stage of experiment; so far as the general trend of educational sentiment is concerned, the proposition that in the training of teachers for secondary as well as elementary schools there is implied something more than a thoro knowledge of the subject-matter of whatever subject finds a place in the curriculum, is rapidly penetrating the consciousness of educational thinkers everywhere except around the cloistered shadows of a few mediæval university departments. I do not wish to be misunderstood. No one welcomes more than I the relatively recent organization and the present development in several of our western state universities of genuine schools of education. Whether in a given state the training of teachers in any field be done in one institution rather than another is a local question; the important thing is that it really

be done. I merely sympathize with the handicap of those who are working in departments of education in some, at least, of our universities, who must make headway against the inertia of an unsympathetic atmosphere and the complex of adverse influences tending to minimize those professional ideals and that professional spirit that are dominant in the great schools where the exclusive purpose is the training of teachers.

Training for teaching cannot properly be a mere incident in a student's general course. The normal college, as a distinctively professional school, differs from other professional schools in this—that so far as subject-matter is concerned, its various courses deal with the same material and traverse much the same ground as in a school the purpose of whose curriculum is generally literary or scientific; hence the difficulty of securing a clear recognition of the actual differentiation. There is the possibility, however, of establishing a definite line of demarcation. This is the common problem of all schools for teachers' training. This is what the normal schools and colleges are doing. If they are not, and cannot, they have no reason for being. In the light of the present-day demands and developments in education, the problem of the content of normal-school and college courses becomes a vitally important one. An ideal professional scheme for the training of teachers is now in the making and all of us who are workers in this field of education are privileged to be sharers in its evolution.

In such a school, as it seems to me, there is a sense in which everything should be distinctively professional, not in too narrow or specialized a sense, but in the broad sense that the purpose of teacher-training must never be forgotten in any of the activities of the school. The teaching spirit, the teaching atmosphere, must be pervasive. The school for the training of teachers has this advantage in the very limitation stated a moment ago that marks it as different from other professional schools. The training that makes for general development, power, or culture can no more be separated from the process of teacher-training than could the blood from the flesh to be weighed on Shylock's scales; and tho neither merely general culture nor yet specialized training in particular branches of study in themselves make a teacher, you cannot really make a teacher without developing in the process something of the vision, the power, and the efficiency that constitute educated manhood and womanhood. The ideal teachers' school, then, must not alone make teachers, but scholars who are to teach, or better, men and women who are to teach. For the accomplishment of this end, the curriculum of the normal school in training for any grade of teachers must have certain essential or distinctive characteristics. These may be enumerated:

1. A well-organized body of pedagogical theory that will lead to a comprehensive and philosophic concept of the general ends of education, whatever the special subject ultimately to be taught. This element is so obvious that it needs in this presence no discussion. The historical and social

aspects of education, the school considered as an organism, the psychologic basis of education, the analysis of the teaching-process—these suggest parts of a system of educational philosophy.

2. The linking of educational theory with practice in the training school or school of practice. This also is obvious; yet it seems to me that nowhere is there a more vital problem than in the work of correlating every department of a teachers' school with the exemplification of the work as organized in the actual training of boys and girls in the elementary and secondary schools. The efficient organization of this phase of the work for the elementary school has been a chief source of strength for the normal school of the past. In its expansion its training-school organization must logically extend to the secondary school. The departmental organization of the secondary school suggests the establishment of a convenient link in the adjustment of relations between the training school and the various departments of a normal college.

3. Specific attention on the part of the intending teacher from the point of view of mature preparation, and with particular reference to their organization for teaching, to the subjects that have traditionally had a place only in the elementary curriculum or are just now finding their way as new subjects into the elementary or the secondary curriculum. What constitutes a college subject? Certain traditions and authorities have determined this in the past largely upon a historical or conventional basis. The normal college, unhampered by these traditions, may say: Our first consideration in the selection and the evaluation of a subject is this: What is its bearing upon our problem of preparation for teaching? Granted the preliminary power and maturity that permits the approach to a subject with the attitude of a college student, and granted the pedagogical organization of a subject so that it has a genuine content, it is not the name of a subject that determines its value but the content and the organization of that content as a part of the experience of the student pursuing the course. To make a concrete illustration from this point of view, arithmetic may be worth more to a teacher than trigonometry, geography than paleontology, and should be evaluated as highly. Just so in the normal-college curriculum upon equal standing should come every subject whose organization the demands of society upon the school today require for the elementary and secondary curriculum. I do not mean to indicate by this that the training school for teachers should be a caterer to the whims or the fads of society, or a weathercock to register the direction of popular breezes, but rather do I mean to say that nowhere is there a better opportunity for genuine educational leadership than in the training schools for teachers in the practical application of an educational philosophy to existing or changing conditions, so as to determine what is worth while, and to sift, reject, or accept as the tests are applied. Here is a measure of freedom for experiment, tempered by the natural conservatism that comes from the necessity of philosophic

effort to correlate theory and practice. Music, drawing, commerce, industrial training, physical education, all subjects outside the traditional scope of the old education, these are illustrations of special fields of opportunity for the normal colleges to organize work on pedagogic principles; or what is more important, to give a pedagogic content to these subjects by putting back of them the personality of trained teachers who are not merely special teachers of the subjects, but who have a philosophic appreciation of their relation to the special ends of education.

These considerations as to the subjects of the normal-college curriculum suggest as a fourth enumeration: the recognition in the organization of every subject that the prime purpose in every teachers' school is the organization of the subject-matter for presentation, or rather with a view to the discovery of its relations to the mind of the taught. All organized knowledge is but a means to an end in the process of education. The latest fetich in education we have deified under the name of "original research." The discovery of new truth may be the supreme function of the university, but in the genuine sense that is the function of the few. The new discovery of old truth is the world-old problem of the school, discovery whose direct value is its reaction on the discoverer. The problem of the organized school for which we are to train the teachers is that of giving to the word that is spoken that which makes of it spirit and life for the many.

In the field of secondary education is to come the next great educational movement. Rousseau, Pestalozzi, Froebel, Herbart, began the work of the emancipation from tradition of the elementary school and the principle they held in common, tho apprehended in varying degrees, was this—that the center of all things is not the matter to be taught, but the mind of the taught. Secondary education is still mediæval. The scientific study of adolescence is yet to have its application in the complete reorganization of the secondary curriculum without reference to its articulation to any existing institutions or to any scheme of things, however high the authority that imposes it, but with reference solely to the dominant interest and the natural stages of development in the life of the adolescent youth. Let the scholars of the universities in their scientific study of education give to us for this reorganization a basic philosophy; let the colleges for the training of teachers consider it their high function to exemplify such a philosophy in practice and confirm its results by experiment; let those who teach go forth from their halls to build life and quicken spirit, confident that the truth will find its place and its meaning only in the living bodies and minds and hearts of men and women.

LEGITIMATE SPHERES OF INFLUENCE FOR THE NORMAL SCHOOL IN PUBLIC EDUCATION

GUY E. MAXWELL, PRESIDENT, STATE NORMAL SCHOOL, WINONA, MINN.

Those who have developed the normal-school curriculum during the past fifty years have appreciated the enlarging conception of the place of common schools in the life and progress of the state and have steadily demanded for teachers a higher standard of technical knowledge and skill, and of general scholarship and culture. The original course of two years beyond the eighth grade has been trebled in length and scope. While the honor of developing an esteem and demand for professionally trained teachers belongs primarily to the normal school, to have maintained and perfected a work even of such great public service will not serve to perpetuate this type of school if it fails to respond to the needs of the next half-century or even of the next decade.

The normal school was founded and has been maintained for the single definite purpose of preparing teachers for the public schools. It developed its characteristic features in the time when the public schools were exclusively elementary, the course of study comparatively narrow and uniform, the demand for teachers of special training not general or pressing, and expert administration unknown. But the public schools are no longer exclusively elementary; elementary education itself varies with local conditions, and is developing a definitely differentiated form in rural schools; the curricula are so broad and varied that school authorities, in the interest of effective work, resort to the departmental teacher and the special teacher, and school supervision and administration have become a vocation. It is fitting that under such changed conditions inquiry should be made as to the forms of influence for which the normal school is properly and necessarily responsible.

That the normal school must continue to render the service to which it has always given its best thought and effort, viz., the preparation of the regular grade teacher, is a truth so well established and fundamental that it need not be discussed here. There are, however, four added related duties for brief consideration:

1. The normal school should afford special preparation for rural-school teachers. Henry Sabin was able to say only five years ago, "As far as I know, there is not a normal school in the land making any attempt to supply teachers for the country schools" (*Ed. Rev.*, May, 1910). The intervening period has seen a great change in this respect in a marked response on the part of the normal school to the national interest in an improved rural life and rural education. The trained teachers whom the rural schools have heretofore secured have been prepared for graded-school work under the mistaken impression that rural schools could be organized and taught under graded-school conditions. We now know that rural schools deserve

and require a different organization and course of study from graded schools and that they require teachers possessing sympathy with, and appreciation of, rural-school conditions; that is, teachers with special training for rural schools.

The normal school, therefore, should offer courses for rural teachers, planned and administered with special reference to rural needs, including practice work either in a near-by rural school or in an ungraded school in the training department. The fact that county normal schools are springing up as supplementary to the older institutions for training teachers, rather than lessening our efforts for rural schools, should cause us to take the lead in rural education by establishing and maintaining the thoroly efficient rural-school departments which our longer experience, our larger financial means, and our specially trained teaching corps make possible.

2. The time has come for an advance in normal-school work in response to the demand for persons prepared to teach and supervise the newer subjects which have been introduced into the public schools. It is desirable to discuss briefly the length of the course required for adequate preparation for such special work.

Two years of work beyond the present standard normal-school course of study should be regarded as the ultimate minimum of time necessary for the preparation of special teachers of music, drawing, manual training, household economy, and agriculture. The special teacher must teach in all grades, including generally the high school. He must be a teacher of teachers, often directing the instruction thru the regular room teacher. This special teacher must not only supervise his special subject but he must organize the material to be employed as well, since in none of these fields has a generally accepted assignment of subject-matter been adopted, nor have textbooks been prepared which fully meet these new needs of the schools. Since these new subjects should be taught in close relation with other school effort, the special teacher must be familiar with the general field of work thruout the school in which he teaches his special subject, and should therefore have a broad knowledge of the relative educational values of all school subjects. Poorly trained teachers for these new subjects will attempt to teach them as separate work; being poorly taught the subjects will lose public favor, not because they lack the values they seem to possess, but because the values are not brought out by the instruction of a poorly prepared teacher.

On the other hand, for the normal school to offer the special work without additional time-requirements will mean the crowding of these courses, since the generally higher salaries for this service and the location in larger villages and cities, of the positions open for teachers of special subjects, are sufficient to attract a majority of students, even were the subjects themselves not especially inviting. Moreover, the fact that teachers now seek training in these fields by attendance on the work of private institutions, at a very

considerable added expense for travel and tuition, promises that the longer courses of easily accessible state schools, with free tuition and the added benefits of state certification, first-class instruction, and practice teaching, will easily hold their own with the competing, privately managed short courses.

3. The normal school should promote the interests of general education, and afford help to teachers in service thruout the state, by a systematic plan for extension work.

It is regrettable that the normal school does not do more for the teacher in service and for elementary education in general, by carrying its teaching and influence to every part of the state; that it does not maintain a foreign mission, indeed, as well as a home gospel of education. The normal school is under obligation to the people who support it to multiply itself everywhere, by the extension of its life and influence thru bulletins, lectures, classes, institutes, and correspondence. The value of the present rather desultory service of this kind, rendered by individual members of faculties, is so marked that it insures the vastly greater benefits to be derived from a systematized and wisely prearranged plan well understood by the people. The reaction of such a plan upon the inner life of the normal school itself would be a rich return for the investment, a leaven, indeed, which would quicken the life of the whole institution. It is worth noting, too, that the sometimes-grudging normal-school financial support afforded by legislatures, will be changed to liberality in the ratio in which the people come definitely to feel, thru ways which they can see and understand, the close, real, practical, and permanent influence of the normal school upon the schools of the state. When people come to be in earnest about education, no workers in society will receive more sympathetic support than those who educate children. It is a part of our business to create this earnestness and intelligent public sentiment.

4. The educational demands of the present day place upon the normal school the responsibility for such an extension of its course of study, equipment, and faculty, as will enable it adequately to fit teachers for principalships, supervision, and general educational leadership in the common or public schools of the state. This means for the normal school a teachers' professional course of four years, an equipment and faculty sufficient to provide such a course, and in connection therewith and requisite thereto the pursuit of experimental and research work in elementary education.

This proposal grows out of the changed conditions to which reference has been made, and its realization makes possible and includes the other three kinds of effort suggested. It grows out of a conviction that the time has come for a very definite forward step in normal-school work thruout the country if this institution is to maintain its position as the principal means in the hands of the state for the training of teachers for the public schools.

There is developing very rapidly at the present time a form of elementary

normal school whose purpose is to train teachers for rural schools. In Minnesota this rural training has taken the form of a department of the high school, there being now twenty-six of these departments in the state. In Wisconsin this school is known as the "County Training School" and its very rapid development within ten years indicates that within the next decade it will find a place in practically every county in the state. In Michigan these county normal schools, forty of them, partake of the nature of a combination of the Minnesota and Wisconsin plans, and already furnish a large percentage of Michigan rural-school teachers. Nothing is more certain than that these schools will flourish and increase. They are already beginning to do two years of work instead of one year as originally, and are sure to move beyond the rural school into the field of the graded school—a move which will doubtless eventually carry with it the successful effort to secure graduate certification by law, so that the county-normal-school diploma will become equivalent in legal certificate value to that of the regular normal school.

On the other hand, the universities are rapidly developing the college of education. The normal school has heartily supported those interested in this undertaking, believing that the university should maintain a professional school for teachers co-ordinate with its professional school for lawyers, physicians, and others. While interested primarily in high schools, the teachers' college is at the same time entering the general field of education, elementary as well as secondary, and is carrying on its extension work even among rural schools. The normal school deserves credit for having developed such an appreciation of trained teachers that institutions which formerly opposed professional teacher-training are now introducing departments to do the work they recently ridiculed. But unless the normal school serves the present age and gets ready to serve the future age by keeping pace with the rapid march of educational progress, it will soon be crowded out of the procession. It will be ground between the millstone of the university department of education above and the county training schools below.

> One of the weaknesses which present conditions have shown in the case of the normal school, [says United States Commissioner Brown] is a tendency in such schools toward isolation from the main currents of secondary and higher education. Even if they are to devote themselves chiefly to the preparation of teachers for the elementary schools, there is need that they should carry into the training which they give our prospective teachers something of the sweep and outlook of the higher education, or rather I should say of all education, considered as one, from the lowest to the highest.

Having in our faculty men and women who are chosen because of their special fitness to become teachers of teachers, persons whose study and growth in the school add continuously to their preparation to do more advanced and effective work; possessing, as all admit normal schools do possess, a real professional educational atmosphere; enrolling ambitious

students and graduates anxious for advanced study in preparation for educational leadership in general supervision, principalships, critic work, and high schools; maintaining as our distinctive feature successful model or training schools with practice teaching therein reduced to an art—offering all these advantages at small per-capita expense to the student and to the state, we should now extend our equipment, courses, and influence so as to minister to the people by training good teachers for all departments of their public schools. Such a lengthened and enriched normal-school life will provide a spiritual atmosphere in which a young person, privileged to study and live, will become a sane and enthusiastic leader in public education.

The statement is emphasized here that there is no ambition on the part of the normal school to become a teachers' college for the purpose of withdrawing from elementary education, or to direct its efforts toward the preparation of high-school teachers except as a phase of its work. Our great field will always be the elementary school. But the elementary school with increased salaries, with broader curricula necessitating better-prepared teachers in all grades, and trained specialists, principals, supervisors, and leaders, sufficiently justifies the enlarged facilities urged here for advanced work. Indeed, there is no field where the service of scholarship is more needed than in the problems of public elementary education, nor problems whose solution will more fully minister to the welfare of society. The normal school, claiming such problems as distinctly and quite exclusively its own, should attack them with the energy and enthusiasm inspired by a great mission, demanding and improving the opportunity for the growth and expansion commensurate with the difficulty and importance of the responsibilities involved.

DISCUSSION

John F. Sims, president, State Normal School, Stevens Point, Wis.—I desire to emphasize one point in President Maxwell's paper, to wit, the suggestion to include as a legitimate function of the normal schools of the country the preparation of teachers for the high schools. We believe that the great business of the normal schools is the preparation of teachers for the public schools, from the kindergarten to the high school inclusive, embracing teachers and supervisors of special subjects. The normal school essentially is made up of faculty and students. Wholesome conditions obtain when the faculty is composed of a homogeneous body of men and women of broad scholarship and high teaching-power, who are imbued with a high notion of the destiny of its graduates who are to go out as teachers—as missionaries spreading the gospel of intelligence thruout the length and breadth of the land. Both faculty and students must be immersed in the belief that the normal school is not mere school, but life, and as a section of life both must work together in achievement of the ideal above set forth. In proportion as we achieve it, we succeed. The normal school creates a professional atmosphere which permeates the personality of its students, whereby the teaching attitude becomes second nature, and it does this more completely than any other institution.

During recent years its field has been invaded, its citadel has been stormed. On the one hand the university asserts that the preparation of high-school teachers is not the mission of the normal, but the work of the university. On the other hand, the advent

of county training schools and the introduction of professional courses in academies and high schools assail it in the field of preparation of teachers for the rural schools, while the special schools question its ability to prepare teachers of special subjects such as music, drawing, manual training, domestic science, and others. So we find ourselves in a position to be ground between the upper and nether millstones.

If we are to retain the high position we now occupy we must fight, or otherwise we must abandon a portion of the field. This department should take a firm stand and wage battle to perform our great mission. We should raise aloft the standard upon which is emblazoned the truth, that the normal schools are here to prepare teachers for the public schools, high schools as well as elementary schools, and that we do not propose to retreat a single inch.

Believing that we create a professional spirit, which equips our graduates with those weapons of offense and defense used with strategic skill, enabling them to meet any emergency that may arise in the intellectual development of their pupils, and believing that we give them the academic and professional training which arouses the self-activity of those pupils in most wholesome ways, and believing that we accomplish these results for the factors which are to be the guardians and promoters of genuine democracy, more completely and effectively than any other institution can or does, I make plea for advancement rather than retrenchment of function—a consummation devoutly to be wished.

Frank Webster Smith, principal of Normal Training School, Paterson, N.J.—This thought which has entered into the discussion is but part of a larger one—that of specialization in professional training for teaching. The idea of a general normal school with a single and uniform course, which began with the establishment of our first normal schools eighty years ago, cannot now be maintained. Today there is great complexity and great variety in educational conditions. The sociology of teaching has changed remarkably. To administer most successfully a city position in a typical city, with its peculiar population and peculiar problems, requires a special study of city problems and practice with typical city children; for the psychology or mental equipment of the city child is unique, his social and industrial relations are also unique. The city teacher should know her field before being intrusted with work in it. To furnish facilities for her necessary training, the normal school must have a city location or city connections so intimately related to its central plant that the whole will form one unified interrelated organism. These thoughts have been forced upon me in connection with my own work.

In the same way the country presents a sociological (which is only a larger and more inclusive way of saying educational) problem of its own. The teacher of the country school deserves just as complete and just as specialized facilities for training as the city teacher, viz., study of country problems, sympathy with country conditions, study of and practice with country children.

Such specialization as I have referred to, however, must eventually be built upon a broad and strong general education, both academic and pedagogical. Mr. Maxwell is right in his insistence on this broader preparation. Mr. Thomas is right in urging broader normal-school facilities.

John W. Cook, president, State Normal School, De Kalb, Ill.—This is the last word in specialization. The peril arising from excessive inbreeding menaces city systems. The country people have slight difficulty in adapting themselves to city life. Its conditions are not difficult to master. There is a narrowness and a conventionality about the life of the city which seem at first formidable but which are most easily met by intelligent men and women. The movement from the city to the country is not so easy.

The city needs the country teacher, for he takes to its schools a breadth of experience greatly needed and highly appreciated by the boys and girls. They are wise officials

who make it easy to reinforce the teaching body of the city by large importations from beyond its boundaries.

As to the claim of the gentleman from Missouri that college graduates should be willing to teach in country schools, I have only to say that those who have spent sixteen years of their lives in the work of educational institutions, can find more extended fields of labor than such schools can possibly afford.

The country schools should utilize the material that is available for their purposes and that is within the reach of their economic ability. The county training school is a wise instrumentality from whatever angle it may be observed.

THE SPECIAL PREPARATION OF TEACHERS FOR THE RURAL SCHOOLS.

A. THRU SECONDARY SCHOOLS.

W. S. PICKEN, PRINCIPAL, WESTERN NORMAL SCHOOL, HAYS, KANS.

The Kansas legislature of 1909 passed "an act to provide for normal training in certain high schools and academies, and to provide for state aid to high schools giving such normal training." A part of Section I of the act reads as follows: "That for the purpose of affording increased facilities for the professional training of those preparing to teach, and particularly those who are to have charge of our rural schools, the State Board of Education shall make provision for normal courses of study and for normal training in such high schools as said State Board of Education shall designate."

Fifty thousand dollars a year was appropriated to aid in maintaining such courses for the two years following the session of the legislature.

This law committed Kansas definitely for two years at least to the policy of affording definite state-wide preparation of rural-school teachers thru the secondary schools of the state.

The policy was not a new one in Kansas. Twenty-three years earlier the state had passed a law providing for the creation of "county high schools" in which was a definite provision for the maintaining of a normal course, which course in the language of the law "shall be designed for those who intend to become teachers and shall fully prepare any who wish to enter the first year of professional work at the State Normal School."

It was provided that graduates of such course should receive a teacher's second-grade certificate. Under that law and special acts passed in line with its spirit there are operating now in the state twenty-two such county high schools, from which, up to the close of 1908, 3,285 graduates had been sent forth. Unfortunately the reports of the state superintendent's office do not state what number of these had completed the normal course. The number was considerable, however, and prepared the minds of the people of the state for a larger extension of the plan.

The first year under the more recent law closed on June 1, and statistics as to its initial operation are now available. One hundred and ten

high schools and academies have had the course in operation. Of these, ninety have received state aid—the academies being barred from such aid by the terms of the law. A total of 1,320 students enrolled for the course and 720 took the yearly examination, success in which means a two-year certificate to teach in any of the common schools of the state—a certificate renewable on conditions established by the State Board of Education. At the time this paper was prepared 575 had successfully passed the examination—a number which by this time may have been increased slightly by the grading of some belated manuscripts.

The overwhelming majority of rural schools in Kansas are one-teacher schools, and in these schools 7,937 teachers were employed in 1908. With all possible increase in the normal-training courses in high schools and academies for next year it is hardly to be hoped that beyond 10 per cent. of the rural teachers needed for one-teacher schools can be prepared next year in the secondary schools of the state.

Seventy-eight of the 105 counties of the state have one or more of the 110 high schools and academies recognized by the State Board of Education.

As to the nature of the preparation to be gained now for rural teachers in the secondary schools of Kansas, the board's regulations for the first year require that those schools must give at least one-half unit in psychology, one-half unit in methods and management, including a certain amount of observation and training work, and one unit of review of common branches, the latter to be nine weeks each in arithmetic, geography, grammar, and reading.

On the broad question as to the wisdom of giving some distinctively professional preparation of rural teachers in secondary schools, the writer of this paper must record his conviction that such a procedure is a wise makeshift pending the day, yet to come, when the professional preparation of rural teachers shall be so broad that only well-equipped normal schools above the secondary grade can hope to accomplish the task. That day will come only when the people in their capacity as state and nation shall provide for rural-school teaching as an honorable and reasonably remunerative life-occupation.

Of course any professional training for rural teachers is better than no such training. But in using the secondary schools as agencies for training teachers for rural schools there should be contemplated such changes in high-school curricula as will insure that the high school is preparing for rural life-relations rather than preparing solely for the college which has heretofore been supposed to prepare for life.

I need not here voice the steadily rising insistent criticism of high-school curricula which demands that such curricula get away from the traditional preparation for the college. That criticism will have its effect and the secondary schools of the country will line up in obedience to its demands.

No one would suggest that less than the two units of professional work

called for by the Kansas State Board should be accepted in any secondary-school preparation of any class of teachers. The imperative necessity of the one-half unit in psychology and the one-half unit in methods and management with the unit in review of common branches will doubtless be conceded by all. But in the methods and management the bearing of everything thereunder relating to the one-teacher rural school should be magnified if the work is to prepare rural teachers. The beauty of any preparation which leads to success in handling a one-teacher school is that it lays the foundation of success in managing any other kind of a school. It is not merely an accident that teachers who have broken into the profession thru an initial experience in teaching a school of all grades prove the best teachers in any future field. The preparation for handling child life there is a better preparation for handling less artificial child life than anywhere else outside the home and the one who succeeds in this environment is more apt to succeed in the less natural closely graded city-school system.

But the phase of method and management work loosely referred to by the Kansas Board as "a certain amount of observation and training work" needs to be emphasized. In connection with every secondary school licensed to prepare rural teachers there should be a readily accessible district school taught by an expert teacher—a school which would be in its essentials a model district school. Here the theory of the methods and management class should be tried out by most careful observation of expert practice. Thus may a reasonable ideal of a good rural school be gained.

But the other work demanded of the candidates for rural-school teachers' licenses in the secondary schools should have a specific bearing upon the problems of farm life. To make clear the spirit of what I mean I quote from the resolutions offered by the Governor of Georgia before the Board of Trustees of the University of Georgia at the meeting called to define the status and scope of the congressional district agricultural schools authorized by the act of 1906. The second of these resolutions reads as follows:

> That the course of study be limited to four years' work, including at least one year of common-school or elementary studies, and that the scholastic year be forty weeks; the school day to be so arranged as to assure at least three hours a day of classroom work in agriculture and related sciences, English, mathematics, and history, and at least three hours a day on the farm or in the laboratory or shop, the hours in actual farm work to be regulated by the exigencies of the farm; the program being such as to provide for alternation of the work and study among the classes morning and afternoon, thereby securing continuous operation of the farm and shop; the female students to be provided with a practicable and comprehensive course in domestic science, sewing, household economics, and kindred studies.

In the carrying-out of this resolution in spirit a tentative course of study was adopted in which the outline for the spring term of the fourth year reads as follows:

CLASSROOM INSTRUCTION

English—Preparation of Essays, Classic Readings.
Mathematics—Geometry.
Rural Economics.
Chemistry.
Economic Biology.

LABORATORY, FIELD, AND SHOP INSTRUCTION

Chemistry of foods, bread-stuffs, fertilizers, and animal products, laboratory investigations, with some work in bacteriology, three hours a week.
Library Reading—Three hours a week.
Household Management—Planning a Home; three hours a week.

MINIMUM REQUIRED WORK

Farm work—Nine hours a week.
Home work—Nine hours a week.

Such an outline of instruction compared with the traditional course to prepare a foundation or a liberal education appears revolutionary but we have come to an age demanding a revolution in our school systems. And somewhat along these lines in a manner yet to be worked out should come a reformation of secondary-school courses which would minister to the preparation of rural-school teachers.

Assume that the preparation for teaching which can be secured in the secondary schools is all the preparation the would-be teacher of a rural school will ever get; then that preparation should be with an eye single to the needs of the work to which such a person aspires. If later opportunity presents itself to enter other professions let the preparation for such professions be deferred to an opportune time.

That a preparation that will place the rural teacher in a position to enter fully into the spirit of the farm will be a pretty good preparation for life in its broader phases is indicated in words of Dr. S. A. Knapp of the United States Department of Agriculture when he says,

> The ownership of a small farm teaches conservatism in society and government; thrift; independence of thought and action; the management of affairs; the necessity of co-operation, and the federation of interests to carry out great projects.
>
> A small farm is a state reduced to few acres. The owner plans, manages, legislates, votes, governs, is employer and employed, superintends and labors, suffers the defeats of wrong policies, and reaps the rewards of successful administration. It has been observed for many years that the sons of small farmers develop managing ability. From their earliest years they are compelled to do things and act independently. It is from this source that the greatest numbers of managers of the various enterprises of our country have been drawn."

B. THRU THE COUNTY NORMAL SCHOOL

WALTER E. LARSON, INSPECTOR OF RURAL SCHOOLS, MADISON, WIS.

The Wisconsin plan of training teachers for the country schools in a special institution known as the County Training School for Teachers originated in the early nineties. Among those who started the movement

were men of experience in this particular field of educational work. After some years of discussion and agitation a law was enacted in 1899 authorizing the establishment of two such schools. Applications were immediately made by two counties. Since that time each legislature has increased the number of training schools. At the present time twenty-six are authorized and of this number twenty-four have been established. One of these will begin its work next September.

It will be seen from the foregoing that these training schools are authorized by the state legislature but brought into existence by the action of the County Board of Supervisors. This board votes to make an application to have one of these schools located in the county. The board elects two persons who, with the county superintendent, constitute the Training School Board. Two-thirds of the expenses of maintenance are paid by the state and the remaining third is provided by the county board. The schools are, therefore, county institutions under state supervision.

During the past year twenty-three of these schools have been in operation. The aggregate enrollment was about eleven hundred—an average of forty-eight for each school. The students, according to their preparation, consisted of the following groups:

	Per cent.
High-school graduates (four years' course)	about 7½
Those having had three years high school	about 3½
Those having had two years high school	about 10
Those having had one year high school	about 15
State graded-school graduates	about 14
District-school graduates	about 50

It is seen from the above figures that most of the students in these schools are from the country communities. With these country students are included many who have had high-school work. To those who have little knowledge of the rural problems this may seem to be a serious mistake. The question is asked how it can be possible that these young people with such limited preparation can go back into the country schools and do good work. It is true that many of them are too young and immature to do good professional work. Yet we must remember that the purpose of these training schools is to improve the teaching in the country schools, and to accomplish this people must be sought who are familiar with the rural environment. Those who have been studying the rural-school problem at first hand all agree that the great majority of rural teachers—both elementary and secondary—must be recruited from the rural communities themselves. Not only do such people understand the conditions better, but they are more content to remain in this field of work with the intention of building it up. Teachers brought up in the city usually take the first opportunity to get into city-school work even tho the salaries paid in the country exceed those in the city. As a rule, also, the country-bred teacher is a greater force in the life of the community. In the year that has closed

there were graduated from the training schools from four hundred to four hundred and fifty, and practically all of these will go into the country schools of Wisconsin next September.

Of the twenty-four counties having training schools, fourteen have provided special buildings. In a few cases unused county buildings have been remodeled, but more frequently new structures have been erected costing from $7,000 to $28,000. Three of these training schools are in the same buildings as the county agricultural schools. Four other counties have provided buildings large enough for the two schools, anticipating the establishment of an agricultural school in the future. Ten of the counties rent quarters or are provided free quarters by the villages or cities in which they are located. In some instances portions of high-school buildings are used, and in others portions of library buildings. The average cost of maintenance for the year ending June, 1909, was about $4,500.

The course of study covers two years of work. High-school graduates and others of sufficient maturity and preparation may complete the work in a year. The common branches are studied both from the academic and from the professional standpoint. It is not the purpose of the schools to give a superficial knowledge of the so-called higher branches. The teacher in the elementary school must first of all know the branches she is to teach. It is a sad comment upon some of the phases of present-day high-school work that many students entering the training schools from high schools are no better prepared in the common branches than many who come directly from the country schools.

In addition to the common branches, professional subjects are taken up. These are school management and theory of teaching. The state manual of the elementary course of study forms the basis of the professional work in the different branches. From ten to twenty weeks of observation and practice-teaching under competent supervision are required of each person who is graduated. In many of the schools considerable additional observation is done during the year in country schools, reports of the same being made to the faculty. In many of the schools also some work is done in drawing, manual training, and the like, special emphasis being laid upon such phases as can be utilized in country-school teaching.

Nature study, agriculture, and farm life, in some form or other, are kept before the students continually. All schools preparing teachers for country-school work must get their students familiar with the vast amount of material found in outdoor life. The country teacher should use the environment as one of her assistants. To do this she must know not simply books, but things. Even many of our trained teachers today are as innocent of the knowledge of things as Whittier's uncle was of books.

Teachers should be leaders in the communities in which they work. To develop this power literary societies are organized and in these the students get training in conducting public meetings, preparing programs,

and in public speaking of various kinds. The programs are usually of such a nature that they are suggestive of work that may be done in the country schools or work that may be carried on in the community by means of organizations of various kinds, such as farmers' clubs, debating societies, and the like.

As a rule there is a strong professional spirit pervading all these schools. The students are there for a definite purpose. They are preparing themselves for a special vocation. All the work of the school, the academic as well as the professional, is taken up with special reference to country conditions.

The total number of training-school graduates (not including the year 1910) is about 1,850. Of these about 1,150, or 62 per cent., taught the past year. About 150, or 8 per cent., have since graduation done work in higher institutions. From information obtained recently from county superintendents who have had several years of experience with training-school graduates, we have the following summary:

Number of counties considered	13
Number of teachers needed in those counties	1715
Number of these teachers who are training-school graduates	709 (42%)
Number of training-school graduates doing excellent work	30%
Number doing good work	40%
Number doing fair work	20%
Number doing poor work	10%

The superintendents report that the graduates of the training school show a knowledge of country-school problems found in no other class of beginners. They know what to do and how to do it. As a class they are enthusiastic in their work and show evidence of daily preparation. The greatest improvement has come about in the teaching of primary reading—the foundation for all school work.

The teachers in the training schools are invariably strong men and women. They are selected with reference to their fitness for this special kind of work. The faculty consists of two, three, and sometimes four teachers. The average salary paid the principal is $1,800 a year. The first assistants average $1,150 and the second assistants $800. Of the total number of fifty-five teachers, twenty-two are college or university graduates and twenty-eight have diplomas from normal schools. The rest have life state certificates. While good scholarship is essential to success in training-school work, yet there are other qualifications that are even more important. A person who has good scholarship but who does not know country conditions or love country life is utterly disqualified for work in a training school. We have in our training schools some of the best teachers in the state.

The work of the training school is not confined to the schoolroom. As these schools are preparing teachers for country schools the faculty must

know the conditions obtaining in these schools. This necessitates visitation. The training-school faculty are a great aid to the county superintendent in his work. Much field work has also been done to stimulate interest in the country schools. The training-school principal is the county superintendent's helper in arousing educational sentiment in the county. Numerous educational gatherings are held during the year in various parts of the county and these are frequently attended by members of the faculty. This phase of the training-school work cannot be overemphasized. If our rural communities are to improve educationally, they must improve from within. There is an abundance of material on every hand that can be utilized but it needs to be organized. Much has been done in many counties by the county superintendent with the aid of the training-school faculty and the graduates who have been under their influence. The institution becomes a unifying force and the result is greater efficiency thru organization and co-operation.

The principal drawback to the efficiency of the training schools at the present time is that the students in many cases are too young and have too little preparation for the work. To remedy this we need rural high schools to which parents can send their children until they have received a more thoro preparation. It is out of the question at present to require a high-school preparation as an entrance requirement to the training school as that would in many cases turn away the material we are most anxious to get into our country-school work. With the establishment of rural high schools this objection to the training school will gradually disappear. It is also certain that many of these schools will be established in the near future and that the work done will be much more efficient in preparing the boys and girls of the country to develop in every way the communities in which they are living. The training school, then, as an institution, works hand in hand with other institutions.

The training school is a growing institution. It is by no means perfect, but it is giving its entire time and energy to this one problem—the uplifting of the rural communites to the best possible life. Some of the most capable men and women are engaged in the work. Thru their efforts the teaching in the rural schools is being greatly improved and social and educational forces organized. In many counties the salaries of teachers have already been increased as a result of this better work. The importance of this work is second to none and the state can well afford to put its best workers into this service and pay them salaries that will enable them to make it a life-work.

C. THRU COURSES IN STATE NORMAL SCHOOLS

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WESTERN STATE NORMAL SCHOOL, KALAMAZOO, MICH.

The chief arguments for better-prepared instructors for rural schools have been: first, the relatively low grade of instruction now given in country schools; second, the necessity for teachers who are made capable and inspired for leadership in the industrial and social redirection of the course of study by special preparation in these lines; and third, the desperate necessity of changing the balance of interest in country life from urban to rural ideals.

Experience has been the chief available means for the better preparation of teachers for rural elementary schools, but this has lacked full fruition because efficient supervision, the chief aid to growth by experience, has not yet been thoroly worked out for rural schools. Aside from supervision the whole reconstructive process has found expression chiefly thru three lines of activity: first, the granting of certificates to teach in rural schools to students who have partly or wholly completed the secondary school; second, the granting of such certificates to applicants who, in addition to part or all of the secondary-school course, take one year of special preparatory work in a county normal training class; and third, the establishment of courses in state normal schools which are intended to be especially adapted to the needs of teachers of rural schools.

All of these movements have contributed in a cumulative way to the rapidly growing appreciation of specially prepared teachers in rural communites. They have all been handicapped by the tradition that little, if any, special preparation is needed for teaching the common country school, and it is this tradition plus the static circumstances growing out of it that has dictated the elementary character of the courses thus far offered for prospective country teachers. However, in the brief years thru which these activities have made returns to the rural schools, there has been such an accumulation of this service in spite of its meager nature that an increased minimum has been made possible and the promise is that the extension and enlargement of courses for country teachers will be possible in much more rapidly increasing measure as the years pass.

The local county or bi-county training class has the advantage of more conscious public attention and wider opportunities for practice teaching than have thus far been afforded in any state normal school. These local classes have made and are making a rich contribution to rural elementary education. Their most serious fault is that they may perpetuate by their brief courses the belief that little preparation is needed to teach a rural school. It is this belief that is the fundamental obstacle to a just solution of the problem. However, in spite of their brief courses, these classes are doing much to break down indirectly the very belief they seem

to perpetuate, since in many of the young people who have the advantages of these classes there is bred a belief that their preparation is inadequate, and their seeking in higher institutions for more adequate education will help to destroy the traditional handicap of the rural school.

State normal schools in many states are becoming conscious of the necessity for grappling with the question of preparing teachers for service in rural elementary schools. Dr. Harris some years ago clearly pointed out the many essential differences in the teaching of a school of many grades with few pupils in each grade from the teaching of one grade with a large number of pupils in it. The rural school is thus seen to demand distinctive character of organization and a direct and well-articulated application of the best-known facilities for instruction. Current rural progress has fixed attention upon the great social significance of the rural school, and thus has been emphasized the necessity for rural teachers receiving some specific training for social service. In 1892 Dr. Henry Barnard, after fifty years of close identification with state-normal-school work, said that he regarded the raising-up of a corps of teachers prepared for service in the country as an unsolved problem.

This problem is still unsolved. Various plans are in process of development in the different states, general reference to which has already been made. The limits of this paper permit but a single state example, and for this illustration the plan which has been developed in the state normal schools of Michigan, and the particulars of that plan as found in the Western State Normal School at Kalamazoo, will be taken.

County normal training classes were authorized in Michigan in 1903. Forty-two of these classes have been established, and a total of 2,129 graduates have gone out from them to teach rural schools. The training given is one year. The entrance requirement is the completion of ten grades of public-school work or its equivalent. The certificate granted is good for three years. Renewals have been granted to 342 of these teachers after three years of successful experience. These classes are really more effective than appears from the foregoing, since many of their students have had teaching experience and some have been graduated from high school before entering the classes.

By multiplying the centers of interest in the betterment of rural elementary education; by making necessary in their own instructors the identification of well-paid, trained, and experienced teachers with this field; and by the rapid sending-out into the service of the rural school of hundreds of young people who have heard that the teacher of a country school, at least in as large a measure as the teacher of children anywhere, is working at the fountain-head of progress—by these direct and specific results the county normal training classes have richly proven their right to be.

Thru these particular services these classes are a large factor in the accomplishment of a more general—and obviously, ultimately to be a far

greater—service to rural elementary education. Michigan state normal schools were already making some attempt to serve the rural schools when the county classes were established in 1903. At first there was a disposition on the part of some state-normal-school people to discount the county classes but this had to stop, for within a year it became evident that the county classes were likely to get better results than had thus far been secured by the state-normal course for rural teachers. This course offered two years' work to graduates of the eighth grade; the county class course was one year to graduates of the tenth grade. That the state normals had underestimated the status of the rural school was proven by the greater success of the county classes; that the present status was still underestimated, or else was rapidly advancing, was proven four years later, when the state normals established a course two years stronger than their original course and one year better than the county classes, for there was no serious problem in enrolling students for the new course, which is academically equal to graduation from the standard twelve-grade high school.

The spirit of the times forbids the continuance, for a longer time than is made necessary by the present order, of paid public instruction to rural children by instructors who are two, three, four, and five years less well prepared than the paid public instructors of urban children. Present public-service ideals also forbid any state normal school, supported proportionately by all of the taxable property of the state, to concentrate its activities and consequent expenditures upon the needs of urban education. Country property, from one-third to one-half the total, and country children in somewhat the same proportion to the whole in many of the most populous states, have but to ask, in the court of public opinion, to receive a verdict against urbanized state normal schools. This is a verdict with its roots in the past and its fruit in the future. The fruit is not forbidden to the state normal schools of America.

Returning to the promised illustration of special courses for rural teachers in a state normal, found in the Western State Normal at Kalamazoo, Mich., the facts follow: The law establishing this school, in common with the laws of the state establishing other normal schools, definitely stated that it should always be one of the purposes of the school to train teachers for rural schools. In compliance with this law provision was made, when the new normal was organized six years ago, for a department of rural schools to be directed by a man ranking officially and in salary with other heads of departments. It was proposed that the department should concentrate the school's interest in, and activities for, the preparation of teachers for rural schools; and force the necessary constructive evolution of the normal's course of study and all available special aids for the training of country teachers. This department has grown proportionately with the other parts of the school. There has been constant

sympathetic co-operation by all department heads and continued enthusiastic support by the administration. Constant work in teachers' and farmers' institutes and associations has brought the department a rapidly increasing appreciation in the state. All of these encouragements have made possible more and more satisfactory results. At the end of the first year four students finished the course for rural teachers; the second year, twelve; the third year, eighteen; the fourth year, twenty-eight; the fifth year, fifty-seven; and the sixth year, seventy-six. The rapid increase in the past two years was caused by offering a more advanced course of study. This year forty-one completed the original course (two and one-third years' work by eighth grade graduates) and thirty-five completed the new and more advanced course (two years' work by graduates of the tenth grade). There were ten men in the class this year, of whom seven were in the better course. The original course will be discontinued after one more year, when, it is believed, the enrollment in the more advanced course will reach the present capacity of the school in this department.

Aside from the regular academic subjects of high-school instruction which are quite rigidly held to, there are three groups of subjects thru which special adaptation to rural-school teaching is sought: First, the professional, including psychology, method, and management, twelve weeks' instruction being given in each. Observation of children both with and without definitely assigned problems is given in connection with the study of psychology and the class work is unified by the use of a textbook. In method the state course of study for rural schools is carefully considered and observations with reports and discussions of the same are assigned in both the urban and rural training schools. The fundamental subjects of the elementary-school curriculum are emphasized, and special attention is given to the more recent additions of the rural-school course of study, such as handwork, nature study, and agriculture. In management the larger problems of the organization of the rural school, together with its relation to the township, county, and state phases of the educational system, and the laws governing school officers, teachers, and pupils are studied. In connection with this work observations are assigned in the training schools and in the neighboring schools.

The second group has to do with the localization of the school by the introduction of home geography, nature observation, agricultural investigation, and application in the school of some definite problems in domestic science and art. Laboratory and garden work are done and the successes of farmers who are within traveling distance are carefully observed. Affiliation is also had with the farmers'-institute movement which is satisfactorily developed in the state, and the generous co-operation of the agricultural college has always been had. A graduate of the agricultural college gives the instruction in this group of subjects.

The third group is intended to develop social intelligence and inspire

to purposes of rural social leadership. A rural sociology seminar has fortnightly meetings in which papers, research reports, and debates are given touching topics of rural industrial, social, and moral significance. This work is supplemented by a brief classroom course in rural sociology. In recognition of the exceptional importance of this group a series of annual rural-progress lectures was instituted four years ago. The lectures have been given by President K. L. Butterfield, of the Massachusetts Agricultural College; Dean L. H. Bailey, of the New York State College of Agriculture; Dean Eugene Davenport, of the Illinois Agricultural College; and Henry Wallace, editor of *Wallaces' Farmer*. Representatives of the various farmers' organizations of the state attend these lectures, and the students of the department of rural schools give a reception in honor of the lecturer and the guests. In 1910 the lecturer of the State Grange held a lecturers' conference at the school in the afternoon of the day of the lecture. This was attended by about seventy local and state grange officials, nearly all of whom remained for the evening lecture and the reception. The president of the State Association of Farmers' Clubs, and two professors from the Agricultural College were present. This gives the young people in the rural-school courses an occasion peculiarly their own which is intellectually and socially as significant as anything that forms a part of the annual life of the school. The importance of dignifying and in the best realizable sense standardizing the work of state normal schools for country teachers cannot be overestimated.

The greatest special agency thus far developed by the Kalamazoo Normal for the assistance of prospective teachers of rural schools is a rural observation school. This is a real country school within ten minutes' car ride of the normal, and in it candidates for graduation in the rural-school courses are given repeated opportunities to observe expert rural-school teaching. This school is in process of realizing the possibilities of the present rural school. It finds a new frontier each year and occupies the new field without losing its distinctive country-school characteristics. It is hoped that opportunity will soon be found to make similar affiliation with an adjacent two-room school, and with a fairly convenient consolidated school. It is no more the business of state normal schools to typify urban-school conditions, as is now done, than it is their business to develop types also for schools in smaller communities.

The conscious and purposeful identification of the normal schools of America with the intellectual and social phases of the great conservation movement is an impending educational problem of vast proportions. The normal school has a strategic position in the current campaign for rural progress. The local school is the most peculiarly democratic and public institution in rural life. The teachers of these local schools, may, in so far as they are individually equal to their opportunities, dominate these schools and fix their type on the rising generation. From this vantage-

point the teacher may become the local, personal realization of the best type of human life; and likewise the school may localize a typically efficient social institution. Rural progress awaits the mutiplied localizations of these two constructive types. The teacher is the shortest cut to public participation in rural progress. As this fact comes into full public appreciation there will be a rapid evolution in American state normal schools.

REPORTS OF COMMITTEES

REPORT OF THE PROGRESS OF SIMPLIFIED SPELLING IN AMERICA

To the Department of Normal Schools of the National Education Association:

Your committee is able to make a report of progress that is very encouraging to those interested in the simplification of the spelling of English, as the year has been notable in the things that have been done and in the co-operation that has been secured. This has been due to the interest that has been shown by an increasing number of scholars, educators, and business men. The use of many of the simplified forms is occurring more and more in the correspondence of the influential and the authoritative as well as in that of the men of affairs and of action. The ridicule and the contumely heaped upon the movement five years ago has almost entirely disappeared, and the opposition to a reasonable consideration of its demands and claims is gone. This is somewhat demonstrated by the following facts:

1. *Webster's New International Dictionary* has recognized the principle of the movement by introducing more than 3,000 shorter forms of spelling than are found in the *Webster's International Dictionary*, but has not abandoned yet the diacritical marking of words as the proper method of determining the true pronunciation of said words. This will make the way clear for the development of a universal key alphabet that will be generally approved by linguists and educators as suitable to be introduced uniformly in all text books and reference books used in schools and colleges.

2. The Twentieth Century Edition of the *Standard Dictionary* has recognized many more of these shorter forms than even the *Webster's Dictionary*, and the next edition of the *Standard*, now being prepared for publication, will recognize many thousands more of these new and easier forms as worthy a place in English publications. This dictionary will also use the new key alphabet as endorsed by the linguists and the educators as specially adapted for public-school work.

3. Some years ago the Department of Superintendence appointed a committee on "A Universal System of Key Notation," which committee was to co-operate with the American Philological Association and the Modern Language Association in adopting and recommending such an alphabet

as could be universally adopted for school use. This committee has come to such conclusions that the members are now practically a unit on the best form for all practical purposes that this key alphabet should have. Hence, today it is possible to say that there is practically assured a National Education Association key alphabet that should commend itself to all educators for its simplicity and its possible usefulness in all public-school work. This alphabet conforms closely to the usage in other modern languages and will be, therefore, more acceptable for use in teaching the language to foreign children.

4. The Provincial Normal School of Nova Scotia, the State Normal University at Normal, Ill., the State Normal School of Colorado, and the State Teacher's College of Iowa are printing their bulletins in such text as to use the new simplified forms adopted by the Simplified Spelling Board. Their use of these shorter words has shown the public that the printed page is not disfigured and that there is no sensible reason for any school to fear political or scholarly repudiation when it consistently represents thus the interests of the children in the public schools. These schools also use the simpler forms in the correspondence of their offices, in the mimeographing and duplicating of circulars and outlines that are distributed in the class-work of the teachers, and in all other ways that can educate people to an appreciation of the shorter and easier forms of spelling.

5. The Simplified Spelling Board has created the North Central States Branch and preliminary steps have been taken to more fully organize these states for a more helpful work in that special territory, so that the membership both of the board and of the advisory council will be more fully developed during the year in this part of the United States. This will enable these states to consider the problems involved and the work to be done without depending upon the more widely scattered main organization. Every normal school or college that will co-operate in helping extend this work by the using of these simplified forms will be granted a membership in the advisory council, and will thus be regularly consulted in all future endeavors of the main board.

6. The normal schools are more interested in the progress and the success of this movement than any other kind of educational center. They have much to do in developing public sentiment. They are leading factors in extending universal education to the masses. They realize the difficulties of the problems involved in teaching English, and they should, therefore, welcome every plan that means more education with less effort and less expenditure of time and money. The normal schools are not bound by traditions that interdict the adoption of sensible reforms. They occupy the key to the position, and their managers should be patriotic enough to co-operate in helping forward a change that means everything for educational progress. To this end the presidents and the faculties of this order of educational institutions should be found in the front rank of

everything that means rational and rapid improvement in all ways that are real and genuine.

7. At the St. Louis meeting the preliminary vote of the members of the National Education Association was reported as being largely in favor of something prominent being done to hasten the day when English spelling might be simplified. At the Asbury Park meeting that followed it was decided by the National Council of Education not to appropriate any money from the National Education Association treasury for such a propaganda, tho the importance of the work to be done was recognized as worthy the attention of philanthropists. To know, therefore, that in a few years such remarkable results as now exist could have been accomplished indicates that when the people are ready for reform then is the time to take the opportunity and urge activity and sensible management.

8. This report cannot be truthfully closed without bearing tribute to the patriotism and the admirable service of the members of the Executive Committee of the Simplified Spelling Board, who have regularly and systematically met weekly in New York City and have gratuitously given special scholarship and valuable time in order that the prestige and the consideration necessary for such an important and difficult work might be given. Such attention and labor has been thus conferred upon the movement that the respect and the esteem of linguistic scholarship, both at home and abroad, has been cheerfully accorded.

9. Your committee is of the opinion that the time is now here when all normal schools should accept the shorter spellings on a par with the standard spellings, that they should use the simpler spellings in their official correspondence and printing, and that they should encourage the adoption of such a custom by their students and teachers. The progress made justifies this sort of recognition of a rational, scholarly undertaking, and in no way can public elementary and secondary education be more rapidly improved.

Respectfully submitted,

Committee { HOMER H. SEERLEY, *Chairman*
DAVID FELMLEY
CHARLES MCKENNY

REPORT OF THE NATIONAL COMMITTEE ON AGRICULTURAL EDUCATION

To the Members of the Department of Normal Schools of the National Education Association:

The Year.—Much activity has been necessary this year as the work possible to be done has been specially effective and encouraging. An annual meeting of the committee occurred at Indianapolis, Ind., in connection with the annual meeting of the Department of Superintendence, at which time reports were made by the secretary and by the members of

the Executive Committee, and addresses were given by prominent educators who are cordially co-operating in endeavoring to secure national and state attention to the immediate need of more industrial and vocational education for the masses thru the administration of public elementary and secondary education. At this annual meeting the vacancies existing in the committee were filled, selection being made from states most active, and a more positively effective organization of workers was thus made. The extending of the membership to the different parts of the United States thru the addition of such persons as would take an active interest in the progress of legislation in the states represented has been decidedly advantageous in helping public interest.

The hearing before the Senate Committee on Agriculture and Forestry.—During the month of April the Senate Committee on Agriculture and Forestry gave a hearing to interested citizens, members of the National Committee, representatives of labor organizations, and all others who were desirous of giving reasons and arguments for the national government undertaking to encourage the adoption and the developing of industrial and vocational education among the masses. This hearing was attended by Secretary E. E. Balcomb, of Rhode Island, and by President Thomas D. Miller, of West Virginia, who presented effectively to the Senate Committee the views of the normal-school and public-school educators concerning the problems at hand. The impression made upon the country by this hearing was very favorable. Later the facts presented at this hearing were published in pamphlet form and have been widely distributed by Senator Dolliver, the chairman of the Senate Committee.

The bill pending.—For some years there have been sundry bills pending in Congress to encourage the adoption of education in agriculture in an elementary and secondary form by the public schools. This year the Dolliver Bill in the United States Senate and the Davis Bill in the House of Representatives were the measures that were most actively under consideration. These were modifications and improvements of the previous bills that had been pending the past two congresses, and include most of the characteristics that the members of the committee desire to see accomplished. These bills make provision (1) for expansion of vocational education in the present high schools of this country; (2) for the organization and establishment of new high schools of an agricultural type where such an undertaking is necessary for the proper education of the whole people; (3) for the organization of suitable experimental work in connection with these new agricultural high schools; and (4) for the education and training of the elementary and secondary teachers in vocational subjects thru the state normal schools. All of these objects are fairly met by the proposed measure and for this reason the later bill seems to be more acceptable than the previous undertakings.

The popular interest.—This movement had the hearty, sympathetic

co-operation of ex-President Roosevelt, who at the time of the Washington meeting of the National Committee gave a hearing and showed large interest in the prospects and purposes of the movement. The same cordial co-operation has been granted by President Taft, who has shown a willingness to accept the propositions as desirable. The friends of the measure have reason to believe that this bill could pass the Senate with a good majority. The co-operation of normal-school and public-school educators has been almost universal, while the state superintendents of public instruction of the several states have done all that was possible to advance the interests of the cause. The labor organizations of the country, the agricultural press, and the friends of popular education in general have all shown a willingness to take a part in promoting the cause thus represented, while the people themselves are decidedly in favor of something in this line being done at as early a day as possible.

The difference of opinion.—The only note of discord that has been discovered has come from those congressmen, citizens, and educators who seem to think that the states should manage this matter for themselves and that education is not a matter of national concern. The only reply that is necessary to be made for such claims as these is that every other kind of progress that is advocated except education has now the support and co-operation to a large extent of the national government. Since public secondary education, teacher education, and elementary education are of notable benefit to national as well as to state life, there can be no good and sufficient reason why the national government should not have a part in this great work. It is well known that all sorts of public enterprises that have to do with the financial, material, and social progress of the times are fostered, aided, or supported by the national government, the majority of which things are of less moment and value to the people at large than is public education, and hence the contention of the National Committee on Agricultural Education that popular education is as much a matter of national concern as post-offices, world's fairs, battleships, airships, ship subsidies, improvement of rivers and harbors, and the Panama Canal, which have received reasonable and sympathetic acceptance by the majority of thinking people. The condition of the controversies in the House of Representatives as well as in the Senate has made any new legislation of a national and patriotic character hard to get consideration, and hence it is the more remarkable that a report of progress is even a possibility at this time. There is particular need, at present, for the friends of the vocational education of the masses to stand for the important principle rather than for the specific plan, as the developing of the plan should be properly left to Congress and to the state officials to whom the work must be later committed. The danger to the cause now is with the average educator. He is more active in making plans and in opposing proposed methods of operating than he is regarding the establishing and the developing of the prin-

ciples that are the real foundations. The main proposition to be accepted now is that of getting something started in both state and nation, rather than to be so particular as to just what specific plan is started. Progress is only a reality when there is something to do with. Experience and trial will lead to proper modifications, as time passes. Interest should be paramount in endeavor rather than paramount in persons or methods. Success depends upon a beginning of something rather than waiting until a perfect system can be formulated and adopted. To this end the coming year should be one of keeping at the problem without any show of discouragement or discontent. The largeness of the undertaking makes it imperative that years be given, if necessary, to reach the goal so absolutely essential to public welfare.

Respectfully submitted,

Committee

HOMER H. SEERLEY, Cedar Falls, Iowa, *Chairman*
E. E. BALCOMB, Providence, R.I., *Secretary*
THOS. C. MILLER, Shepherdstown, W.Va.
E. C. BISHOP, Lincoln, Nebr.
D. B. JOHNSON, Rock Hill, S.C.
H. G. WILLIAMS, Athens, Ohio
ALBERT SALISBURY, Whitewater, Wis.
M. BATES STEPHENS, Annapolis, Md.
J. B. ASWELL, Natchitoches, La.
J. Y. JOYNER, Raleigh, N.C.
JOHN R. KIRK, Kirksville, Mo.
R. J. ALEY, Indianapolis, Ind.
N. C. SCHAEFFER, Harrisburg, Pa.
ALFRED BAYLISS, Macomb, Ill.
WILLIAM STEWART, Salt Lake City, Utah

DEPARTMENT OF MANUAL TRAINING AND ART EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—James C. Monaghan, principal of Trade School.....New York City, N.Y.
Vice-President—Miss Ednah A. Rich, president State Nor. Sch. of Man. Arts and Home Econ., Santa Barbara, Cal.
Secretary—C. Valentine Kirby, supervisor of art instruction.....Buffalo, N.Y.

FIRST SESSION—Tuesday Forenoon, July 5, 1910

The meeting was called to order in the Arlington Street Church, Boston, by Vice-President Ednah A. Rich in the absence of the president.

The first paper, "Our Public Schools as Preparatory Schools for Practical Life," by Edward A. Rumely, of Laporte, Ind., was read by Mr. Rumely's representative, John Foster Carr, of New York City. Charles H. Keyes, superintendent of South District Schools, Hartford, Conn., spoke upon the topic, "Better Preparation for Life Needs of Industrial Demands."

The discussion were participated in by the following: George W. Bryant, superintendent of manual training, Newport, R.I.; George E. Meyers, principal, McKinley Manual Training School, Washington, D.C.; Paul Kreuzpointner, institute lecturer, of Altoona, Pa.; Arthur L. Williston, director, School of Science and Technology, Pratt Institute, Brooklyn, N.Y.; and John C. Brodhead, director of manual training, Boston, Mass.

The Rev. Henry Williamson, convener, Manual Instruction Committee, of Dundee, Scotland, brought greetings from abroad.

SECOND SESSION, Wednesday Forenoon, July 6, 1910

The session was called to order at 9:45 a.m., in the Arlington Street Church, President Monaghan presiding.

The first speaker was Arthur D. Dean, chief of the Department of Industrial Education, State of New York, Albany, N.Y. Subject: "A Practical System for General Training in Industrial Education."

C. B. Connelley, dean of Carnegie Technical Schools, Pittsburgh, Pa., presented a paper on "The Conservation of Educational Methods."

"The Training of Teachers of Industrial Work" was the subject of a paper presented by Michael W. Murray, director of manual training, Technical High School, Newtonville, Mass.

The discussion was opened by Daniel Upton, principal of State Normal School, Buffalo, N.Y., and the following took part: Joseph B. Richey, superintendent of schools, McKeesport, Pa.; Alvin E. Dodd, director, North Bennet Street Industrial School, Boston, Mass.; Frank H. Ball, director of manual arts, Cincinnati, Ohio; Miss Alice L. Lanman, Boston, and others.

The president appointed the following Nominating Committee:

John C. Brodhead, director of Manual Training, Boston, Mass.
Miss Susan Odlin, Dayton, Ohio.
Miss Helen Louise Johnson, Associate Editor, *Good Housekeeping*, Springfield, Mass.

The following resolutions were presented by Mr. Arthur L. Williston and on motion were adopted:

WHEREAS, Many high schools in the United States are now giving good courses in shop work, drawing, household science and art; and
WHEREAS, These subjects contribute to the increase of intellectual and imaginative power, to the broadening of social understanding, and to the usefulness and happiness of the student in ways not afforded by other subjects; and
WHEREAS, The recognition of these subjects by college-entrance credits would encourage high schools in extending and intensifying this work; therefore be it
Resolved, By the Manual Training Section of the National Education Association, that the colleges be urged to grant recognition to these subjects as elective whenever this work is well taught in any high school.

It was further resolved that a committee of seven be appointed by the chair for the purpose of carrying into effect this resolution on college credits.

Upon motion duly seconded and carried the chair appointed the following:

Arthur L. Williston, director, School of Science and Technology, Pratt Institute, Brooklyn, N.Y., *Chairman.*
Michael W. Murray, director of manual training, Technical High School, Newtonville, Mass.
William C. A. Hammel, Department of Manual Arts and Physics, State Normal and Industrial College, Greensboro, N.C.
Clarence D. Kingsley, teacher of mathematics, Manual Training High School, Brooklyn, N.Y.
Miss Ednah A. Rich, president, State Normal School of Manual Arts and Home Economics, Santa Barbara, Cal.
Miss Helen Louise Johnson, associate editor, *Good Housekeeping*, Springfield, Mass.
Clifford B. Connelley, dean, Carnegie Technical Schools, Pittsburgh, Pa.

The meeting then adjourned.

THIRD SESSION, THURSDAY FORENOON, JULY 7, 1910

Meeting called to order at 9:45 A.M., President Monaghan presiding.

The first speaker was John Ward Stinson, Interlaken School, Laporte, Ind. Subject: "Professional Suggestions and Experiences in Upholding a Vital and Organic Art and Artisanship for America."

C. Valentine Kirby, director of art instruction, Buffalo, N.Y., was the next speaker. Subject: "Art as a Medium for Liberal Education."

"The Advancement of Drawing and Art Teaching in our Public Schools as Compared with the Advancement made in Foreign Countries" was presented by Miss Bonnie E. Snow, Prang Educational Co., New York City, N.Y.

"Drawing and Its Relation to the Arts and Crafts of the Public Schools" was the subject of a paper presented by William C. A. Hammel, Department of the Manual Arts and Physics, State Normal and Industrial College, Greensboro, N.C.

Discussion was led by John Ward Stinson, Interlaken School, Laporte, Ind.

Closing remarks by President Monaghan.

Report of the Nominating Committee:

For *President:* Clifford B. Connelley, Dean of Carnegie Technical Schools, Pittsburgh, Pa.
For *Vice-President:* Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.
For *Recording Secretary:* Miss May Gearhart, supervisor of drawing, Los Angeles, Cal.
For *Corresponding Secretary:* Walter Sargent, professor of education as related to drawing and manual training, The University of Chicago, Chicago, Ill.

The Report was adopted unanimously.

FOURTH SESSION—FRIDAY FORENOON, JULY 8, 1910

The meeting was called to order at 9:30 A.M., President Monaghan presiding.

Miss Helen Kinne, director of household arts, Teachers College, New York City, N.Y., read a paper on "The Vocational Value of the Household Arts." This was followed by a paper by Miss Ednah A. Rich, president, State Normal School of Manual Arts and Household Economics, Santa Barbara, Cal., on "A Supervisor's Viewpoint of the Practical Application of Art and Science to the Average Day Life of the Child."

Miss Irene E. McDermott, director of household arts, Allegheny High School, Pittsburgh, Pa., presented a paper on "The Scientific Department of the High School and Its Relation to the Household Arts."

Then followed the president's address, "Aims and Methods of Modern Education."

There was then a general discussion, led by Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass., and Miss Laura A. Cauble, assistant professor of household economics, Margaret Morrison Carnegie School for Women, Pittsburgh, Pa.

William C. A. Hammel, of the Manual Arts Committee, read a resolution of thanks to the local committees for their courtesy and hospitality, and this was unanimously carried.

The department then adjourned.

C. VALENTINE KIRBY, *Secretary*

The Committee on the Place of Industries in Public Education completed its report during the year. In accordance with the authority granted by the Board of Directors at its meeting in Denver, Colo., July 5, 1909, the Secretary of the Association printed the report in May, 1910, and distributed it to the active members. The report was discussed in the National Council at the Boston Convention. The full report is printed in the volume at the close of the "Papers and Discussions" of this department, since the committee was a department committee, not a Council committee. The council discussions are transferred from the proceedings of the Council to the close of the report for the sake of unity.

IRWIN SHEPARD, *General Secretary*

PAPERS AND DISCUSSIONS

AIMS AND METHODS IN MODERN EDUCATION

JAMES C. MONAGHAN, PRINCIPAL OF TRADE SCHOOL, NEW YORK CITY, N.Y.

I am a little at a loss, to begin with, for the word modern in education may mean almost any hour in the last hundred years. Perhaps it may be best to speak of educational aims that prevailed previous to the world's work along the lines of the education advocated in recent years by ourselves: industrial and industrial-art education. The aim before that time was to build up boys and girls, particularly boys, without any particular aim. Perhaps I should divide the past, the period of which I am speaking, into two parts, one in which little or no thought was given to the largest number of boys beyond giving them the three R's, or if anything better, not enough to lift them into the category of boys listed for a college career.

THE HIGH SCHOOLS

With progress, prosperity, and men's and women's social aspirations came the high schools, boarding schools, and the smaller colleges. Then the aim was higher—the methods the same with certain additions acquired

by a study of foreign methods. As we went along the high school, whose purpose had never been very clearly defined, began to lose what it was hoped by many that it would have, the character of a local finishing school, to take on the more dignified but less important character of a college or university feeder. Its aims, as far as it formulated any, were not just what the nation needed nor really what its advocates wanted.

As we went on and on and on, this became more and more apparent. Emerson's advice to boys, to hitch their chariots to stars, was being interpreted by the high schools as intended to encourage the masses to emulate the classes by aspiring to a college education. In this way our aim was subject to social aberrations. Perhaps no page or pages in all our past put forth so perfect a picture of New England's, if not the nation's, educational and other aspirations as does that page in Webster's *Pilgrim's Day* or *Plymouth Oration*, beginning with a quotation from the Athenian Commander on the plains of Marathon, before the great battle that was to decide "whether the Persian or the Greek banner was to wave victorious in the beams of that day's setting sun." "If we conquer," said the Athenian commander, on the morning of that decisive day, "if we conquer, we shall make Athens the greatest city of Greece." A prophecy how well fulfilled!

" 'If God prosper us,' might have been the more appropriate language of our fathers when they landed upon this Rock," says Webster.

> If God prosper us we shall here begin a work which shall last for ages; we shall plant here a new society in the fullest principles of liberty and the purest religion; we shall subdue this wilderness which is before us; we shall fill this region of the great continent, which stretches almost from pole to pole with civilization and Christianity; the temples of the true God shall rise, where now ascends the smoke of idolatrous sacrifice; fields and gardens, the flowers of summer, and the waving and golden harvest of autumn shall extend over a thousand hills, and stretch along a thousand valleys, never yet, since the creation, reclaimed for the use of civilized man. We shall whiten this coast with the canvas of a prosperous commerce, we shall stud the long and winding shore with a hundred cities. That which we sow in weakness we shall reap in strength. From our sincere, but houseless worship, there shall spring up splendid temples to record God's goodness. From the simplicity of our social union there shall arise wise and politic constitutions of government, full of the liberty which we ourselves bring and breathe; from our zeal for learning, institutions shall spring which shall scatter the light of knowledge thruout the land, and, in time, pay back where they have borrowed, shall contribute their part to the great aggregate of human knowledge; and our descendants, thru all generations, shall look back to this spot, and to this hour, with unabated affection and regard.

Webster's dream was the dream of those by whom he was surrounded not only in the body, but in the spirit that day. It was the hope, held tight to the hearts of our fathers, that this land that had had a great birth in freedom, was to have a higher birth, were that possible, in law and learning, and in the love of God. That the nation is not all the fathers dreamed is not due to lessened aims, but to the methods. No one now working in our ranks aims any lower than men aimed then. Nobody favors a system that

is to exclude a single thing in the Fathers' dreams. To hear men talk and to read after others one would suppose we were working for a kind of inferior culture. As a matter of fact we are working for a higher kind of culture than has ever been seen here or elsewhere. If our scheme, dream, or aim is ever obtained in America it is to give us an age as far above that of Pericles or the Renaissance as these were superior to other, far inferior ages. We want women and men to work amid surroundings far superior to any in any age of the world's history. We hope to have ten times as many in our colleges and universities as are there today. If, as we are told, the ordinary toiler advances in ten years, from his twenty-second to his thirty-second year, from $10.00 to $10.10 a week, the ordinary apprentice, from $12.30 to $15.76; the industrially trained or trade-school graduate, from $17.00 to $25.00 and the technical-school graduate from $13.00 to $43.00, it stands to reason that the more we have in the last two categories, the more candidates will come up out of the ranks of labor for a college or university education.

No man on earth is so eager as the mechanic to give his boy the best education there is. Germany has lost, or is losing, none of her old power of great numbers in higher education. Besides, it is a great mistake to think that culture is confined to any particular course in college, as some do, giving the culture to the classical course. Some of the most cultured men I ever met were scientists; some of the greatest boors, teachers of Latin and Greek. If, as Mathew Arnold says, "Culture consists in spreading sweetness and light and making God's will prevail," I see no reason for claiming more for the classical than for the scientific course. The finest lives lived in England in a hundred years were lived by its Lord Kelvins, Tyndalls, Faradays, etc., and the largest and finest life in the last hundred years of French history was the life of Louis Pasteur.

As I stand sometimes on an ocean steamer and feel the throbbing of her engines, I go back to Watts working his long nine and one half years in the University of Glasgow perfecting his engine. I see George Corliss and the countless cultured men of science working on and perfecting that matchless Minerva of the great mechanics' brain. When I look back from the deck of a Lusitania to the splendid arches of Brooklyn's great bridge I recall its builder, Roebling, the great engineer. I remember reading somewhere that he went blind before the bridge, the masterpiece of his life, was finished. To please him they carried him in a carriage every day to a little hut at one end of the bridge, enabling him to hear the ringing of the hammers. As I read that I remembered that Homer, greatest of the ancient poets, was blind, that a boy led him along the shores of Scio's rocky isle, noting down the matchless and priceless sentences sung or sobbed forth by the side of that sobbing and singing sea. In my foolish way I put them side by side, Roebling and Homer, the great scientist and the great poet, the poet of iron and steel, the poet of words and water. In the harmonies of Brooklyn's

wonderful bridge, in its faultless lines, I find what I find by running thru every page of the world's poetry—I find the same charm, the same beauty that I find in the great Greek's matchless verse.

OUR AIM

Our aim is high, high as it ever was. We want all the culture that is possible. How often have we shouted and shouted for men and women at work rather than for mere working-men and working-women. Not a single dream of the race is to be blotted out of life's lexicon as we want it. Not a page of all that is best in the past shall be put away or aside at our request. One cannot make the culture wanted or worked for too high to suit us. Burke, the wisest of statesmen, in his *Reflections on the French Revolution* has a clause often quoted and always worth quoting. He says:

> Instead of casting away all our old prejudices, we cherish them because they are our old prejudices; and the longer they have lasted, and the more generally they have prevailed, the more we cherish them. We are afraid to put men to live and trade, each in his own private stock of reason, because we suspect that this stock in each man is small, and that individuals would do better to avail themselves of the general bank capital of nations and ages. Many of our men of speculation, instead of exploding general prejudices, employ their sagacity to discover the latent wisdom which prevails in them. It they find what they seek, and they seldom fail, they think it more wise to continue the prejudice with the reason involved than to cast away the coat of prejudice and to leave nothing but the naked reason; because prejudice with its reason has a motive to give action to that reason and an affection that will give it permanence. Prejudice is of ready application in the emergency. It previously engages the mind in a steady course of wisdom and virtue, and does not leave the man hesitating in the moment of decision, skeptical, puzzled, and unresolved. Prejudice renders a man's virtue his habit; and not a series of disconcerted acts. Thru just prejudice his duty becomes a part of his nature.

While all that is true, it is just as true that habits long continued become prejudices and look to their owners like virtues. It is against the men of prejudice that our work is to be warmest, least valuable, and most worrying and fatiguing. But we must go on. The battle is not always to the strong, but to the active, the vigilant, the brave. The Latin *Labor omnia vincit* is tersely expressed by our "Work wins." And this must be our motto. Present ideas of education have been based upon the notion that manual labor means weakness, subjugation, and inferiority. Education for the purpose of increasing efficiency in productive work has been regarded as unworthy of the free man. The leisure-class theory of education seems to be based on the notion that only non-industrial occupations were worthy, using "industrial" in the narrow sense. The coercive utilization of man by man rather than the utilization of nature, or, rather, man's non-human environment, was regarded as a worthy aim, and training that would develop him for war or for the professions was regarded as a worthy ideal. The training of the muscles that would prepare for exercise in war was regarded as the proper thing; while the training of the same muscles in

some useful trade was looked upon as degrading and lacking in cultural value. The same general principles develop in the selection of studies for training the intellect. The training of the moral nature incidental to these views was inevitable.

No matter what the aim is it cannot be higher than it has been. The methods may be changed, improved. No one on our side is willing to take a tenth, a ten thousandth part of a tenth of the smallest thing thought of from the cultural side of the education offered to American youth. We hold that our aim is to make, and if carried out will make, a far higher type of man, woman, and child than has any system or method thus far tried. I fail to see how the miner who has been taught geology enough to enable him to understand the marvelous laws that are to be seen in the mines, in the position of ores, who has learned the economic laws affected by his labor, is to be less cultured than the man who has never learned the one law or the other. The horse-shoer who has a large knowledge of the anatomy of horses' hoofs, who is able to drive a nail, never touching the quick, who is able to detect incipient stages of disease, who is familiar with the history of the horse from the time it was a five-toed animal, down to our day, who has learned lesson after lesson of how England and other lands handled horses till our present breeds rewarded intelligent effort, is he likely to be less cultured than a horse-shoer, who is ignorant of those facts; is he less likely to find life livable and lovable? And so on all the way up or down.

For a long time we wandered aimlessly. At last we found more men right here in Boston, among them Wendell Phillips and Horace Mann. Yes, Wendell Phillips! No tongue ever talked more bravely—that was to be expected—or more eloquently or more intelligently, than did Phillips before Boston audiences and before legislative bodies for the very same system advocated by us today. Phillips was a pioneer, one of the nation's most advanced thinkers, an indefatigable worker. I like to look back into the past and see him, Aaron-like, holding aloft Horace Mann's hands as the arms of Moses were held aloft by this brother.

Neither the high nor the grammar school of the early days had any very definite idea of what a boy was to be. The inspirations of the boys, those that were able to stay at school to go thru the high school and colleges, were for the professions, law, medicine, or the church. Even teaching, then as now, to the nation's great loss and shame, was made a stepping-stone to the other kinds of life, law, medicine, and the church. The result? Well, I leave that to conjecture. What it had to be, I hate to think, much less express. Methods among the men folk's teaching could hardly be what they would have been had there been as much chance for the teacher, in the teacher's profession, as there was for the lawyer and the doctor in theirs. There was no aim that was worthy of the name, as we understand the word "aim" today; that is, for the vast masses of boys and girls; nor

was there any very well-defined method beyond the three till one got into college.

A CHANGE

By and by a change came over the country. Horace Mann had not lived in vain. His work, his papers, his desires began to have their effect. The first steps of what in our day has been defined as vocational training were taken. Business men began to ask for better-trained boys. Looking out over the tariff walls, behind which we had failed to build schools in which to train the high-class help, we found the men needed. We went for them to all parts of the Old World, particularly to England, Germany, and France. Then again, the aims of others, particularly Germany, led us to look carefully to our own aims, curricula, and results. Thus taken, the second period of our past was inspired and inaugurated. Emerging out of a chaos caused by a most curiously compounded and confounded system, we went over to some very wild ideas as to what would be wisest and best. Harnessed to the car that was to carry culture, tho it carried nothing else, and with very ill-defined ideas of what constitutes culture, we called—some of us clamoring—for something that would enable young America to earn a living. Manual training came as a sop to the educational Cerberus barking at our heels.

The Merrill Bill of 1862 that passed Congress lent light and a definite idea to a movement that has gone alongside of the manual-training movement. As in the olden day, so in the manual-training day, there was confusion worse confounded; for manual training was supposed to add not only enough of what the nation needed, but it was to start in the way of those bent upon what they deemed the better aim and way, that which was, or is to lead to, vocational training, industrial and industrial-art education.

It is hard to make the masters and advocates of manual training see that manual training, good in its own way, a necessary and splendid part of a cultural education, is in no way, nor should it be regarded as, a substitute for, or the equivalent of, industrial training. While it is time that the boy or girl getting manual training gets, or is supposed to get, hand dexterity, it is not the hand dexterity desired or required in a special trade. The boy who is going to be a lawyer reads in school, he reads law books, works that will qualify him for his life's work as a lawyer; so the physician, the engineer, the architect; all professional men read, in school, in college, in the university, but the day they start into work for a profession their reading, their work is of a kind that is calculated to fit them for their life's work. Hitherto in the thirteen, fourteen, or fifteen millions of children of school age, less than six hundred thousand are or were getting last year and the year before a training for a vocation. These included clergymen, lawyers, doctors, engineers, teachers, and nurses. Think of it! That is far from being the best possible system. It cannot go on. Besides, the cost, as I

saw it stated, puts the education of each university student at $158 a year, each high-school student, $57; each grade-school scholar, $27. To the university goes only one out of every one hundred and twenty that start out for an education. Only one in twenty ever gets to the high school, while less than 25 per cent., I have seen it stated as low as 17 per cent., ever get thru the grades.

If education ought to be a preparation for life, its aim ought to be to educate the masses rather than the classes. All we see seems to indicate an educational system that is upside down, a pyramid on its apex. Culture is in no danger—what is worth keeping will be kept. Is such a system as we see around us the right kind? Is there no need, no chance for profitable and valuable changes? That the present system, in spite of all its splendid aims, is not what it ought to be is as evident as the sun at the zenith; but, like the sun at the zenith, there are those so weak-eyed they dare not gaze upon it. Some there are so prejudiced, so wedded to the past, that any hand that is raised against what is dangerous is the hand of an enemy. To effect our purpose, to carry our cause to a successful issue, we shall have to do what our motto suggests—work; but there is comfort in the thought that work has always won in the past, is winning in the present, and is bound to win in the future. "Let us then be of good cheer," as Sumner said near here, half a century ago, "From the great laws of progress let us derive at once our hopes and our encouragements."

Humanity has ever advanced, urged by the instincts and necessities implanted by God; thwarted at times by obstacles it has seemed to retreat, but still ever onward. In the recognition of that law, there are motives to benefit activity that shall endure till the last syllable of life. Let the young embrace it; they shall find in it an ever-living spring; let the old cherish it still; they shall derive from it fresh encouragement. It shall give to all, both old and young, a new appreciation of their existence, a vindication of this force, a new revelation of their destiny.

OUR PUBLIC SCHOOLS AS PREPARATORY SCHOOLS FOR PRACTICAL LIFE

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No one sees more plainly than the manufacturer that the future of the American Republic depends upon the school. And he asks this question: How can this school, which is giving immediate shape to the nation of the future, give our boys and girls a training that will be efficient preparation for the practical work of life, which is also the work of the nation? In spite of one hundred and fifty years of earnest effort, the school still clearly favors the few who have no other aim than to be clerks in stores, banks, and offices, and the fewer who take the courses leading to the professions.

But it neglects the ninety boys out of every hundred who are to engage in manual work as machinists, carpenters, printers, telegraphers; the girls who are to be milliners, dressmakers, housewives—the thousand sorts of toiling bread-winners. How shall the future give them their needed training?

Our educational progress has not kept step with the wonderful advance of the world. By practical standards the school has changed little within the last century, while our civilization has been magically transformed from primitive-rural to complex-urban. The age of universal transportation has arrived, and has suddenly made the world small, until remote nations seem next-door neighbors. We are now conscious of the swarming tumult of men on the globe with whom our human relations have multiplied enormously. The small tool of the old worker has given way to the vast machines of the factory and the labor-saving implements of the farm. The automobile, the bicycle, the telegraph, the telephone, the typewriter, the phonograph, the motor engine, with its myriad uses, enter into the daily routine of our lives. All life has come to depend upon mechanical marvels, and its pace has been keyed to wonderful swiftness.

We must adapt the immense new experiences of the world to the educational needs of the future. As an industrial people we must see that skill goes with schooling. Practical work in the school must prepare for practical life. Our children must learn to conserve, if possible to increase, our store of natural resources. Think of the pressing need!

We have become a spendthrift race. Extravagance is the order of the day. James J. Hill told us the other morning that our trouble is not the high cost of living, but the cost of high living—privately and publicly the wild waste of natural resources. Four generations ago our forefathers had to their west a vast untouched continent, rich in timber, ores, and soil-fertility beyond anything the white man had ever found. The entire population of the country, scattered along the Atlantic seaboard, was limited to a couple of million people. These vast natural resources were successfully exploited, our wealth increased as if by magic, and today our population of ninety millions has occupied the whole continent from ocean to ocean, but not without leaving its mark upon the land. Our forests, laid low by giant mills, are more than half cut. Our streams and lakes have been looted of their fish by water-wheels and steam-drawn seines. Our mines of ores and coal are beginning to show signs of depletion. Our soil, with impaired fertility, now yields eighteen and twenty bushels in place of the forty of the virgin prairies. At the end of it all we are beginning to see that our national wealth is not all the product of wise and intelligent labor. Largely, we have done no more than transmute, and often recklessly, our natural resources into the uses, ornaments, extravagances of our civilization: foodstuffs, houses, clothes, railroads, palaces, monuments, elegances of living, lavish show of gold and silver.

The machinery of plunder has been tremendously developed. By its use we have been able to export enormous quantities of raw material and the bounteous products of our fields. Now, however, our agricultural exports are falling, and the time is already at hand when we shall need our own foodstuffs to feed an increased population. It will soon become an actual question of food. Most of the original natural wealth of the land is gone, and every child born into the world brings into it the mouth of a consumer, but no natural wealth except the labor power of its two hands. Life, henceforth, must be supported by high intelligence, skill of hand, the honest work of men, and not by systematic robbery of nature. Henceforth we must export neither our raw materials nor our foodstuffs, sacrificing to other nations the riches of our soil. For the future, we must export the factory value of the skilled work of our hands, which can create wealth of all forms. For the future, the annual per-capita value of our manufactured products must show a steady rise from the present estimated standard of $74.53.

Germany says consciously to herself: "Skilled workers produce high values. Unskilled workers do not. The hewers of wood and drawers of water are dull peasant types. The men of directive power who lead the world come from the skilled classes. Let us save our own natural resources, and get from other nations our raw materials and the rough manual labor that produces them."

Such competition as this will force us to become predominantly a manufacturing and industrial people, a course upon which we have started and made astonishing progress. We have perhaps four million skilled workers; perhaps three million five hundred thousand unskilled workers. While we can get our unskilled labor abroad, it is of vast importance that as many as possible of our own citizens become skilled workers, and so creators by their toil of products of high values. Considering material advantage alone, the annual money difference to the nation, whether the 90 per cent. of our million boys, who will leave school next year, become skilled or unskilled workers, reaches a prodigious total of hundreds of millions of dollars.

If we care to maintain our present position among the nations, the masses of this country must excel by their superior skill as workmen. For we shall be obliged to meet, at first in the world's markets, and later at home, the products of Germany and Japan, our ascendant modern nations, crowded thruout with a surplus of skilled and efficient labor. We cannot compete with them thru cheap raw materials and a low cost of living, which are now things of the past in the United States. We can meet them only by the superior skill and better training of masses of American workmen. Where are they?

It is a curious thing, as Mr. Roosevelt has said, that in industrial training, "we have tended to devote our energies to producing high-grade men

at the top rather than in the ranks. Our engineering schools compare favorably with the best in Europe, whereas we have done almost nothing to equip the private soldiers of the industrial army—the mechanic, the metal-worker, the carpenter. Indeed, too often our schools train away from the shop and the forge."

Great branches of our industries have been built up to their present prosperity by the educational foresight of Germany, by her skilled mechanics, trained in her splendid technical and trade schools; but today there is a serious dearth of skilled industrial workers, and we cannot longer depend upon other nations for such supplies of trained men. A carpenter's bench and a lathe—the manual training that is being enthusiastically given everywhere—do not solve the problem. And no other sources of supply are discoverable. The old apprenticeship system has almost entirely disappeared, leaving, at the best, substitutes that only supply individual needs. In all our crowded cities the sons of skilled workers are going in extraordinary numbers into box factories, candy factories—a hundred unskilled trades—hopeless of earning high wages or developing high efficiency. Yet competent mechanics are needed in every branch of our industry, from a pin factory to a giant automobile plant.

All this defines one side of our need for effective industrial education. But there is another view of the question, which is equally, nay, more important. For the training of manual work, the keen discipline in learning any one of the skilled trades, is the schooling that is needed by all boys not only because it is going to make efficient men of them, but because it is a necessity to their bodies that are 52 per cent. muscle. This can now only be got thru the school; yet from the school until now we have had the one-sided mental training, which physicians are beginning to understand is the first great cause of the wide-spread nervous troubles of today—a thing so exclusive to our own land that our prevailing form of nervous disease is, in Europe, called "Americanitis." From such diseases we shall suffer more and more until the school gives our children strong trained bodies and practical, well-trained minds.

Until a few years ago the work of everyday life at home made special muscular training unnecessary. Industry was centered in the home, where our parents used to grow their own food, spin and weave their own cloth, make their soap, dip candles. Eighty per cent. of the population was agricultural. The father, if he happened to be a cabinet-maker or blacksmith, shaped his wood and forged his metal near his home, within the sight of his children. Each child was called upon while still young to share the parent's activity. He gained not only an insight into the industrial processes, but he acquired habits of work, keen discipline, moral training for his future occupation.

But now we are become a new sort of cave-dweller. Even in our suburban homes we have accepted the automatic ways of apartment-house

life; luxury, indulgence, ease are softening our fibre; and industry has passed forever from the home to the factory. This has thrown new duties upon the school. Fifty years ago the academy boy was an efficient and intelligent part of that mid-century civilization. The entire industrial process was known to him. Today, thru the enormous complexity of life and its minute specialization in work, this has so far been lost that the city high-school boy has not even the elements of knowledge sufficient to build up imaginatively the vital facts of daily life and labor. He has studied books and heard things talked about, but even of his father's productive work he has had little or no share. Chalk and blackboard and books, even when supplemented by our new manual training, are no longer enough. Our new civilization has its own vital needs. The knowledge necessary for use in the productive industrial processes has increased enormously. Sciences, like physics and chemistry and electricity, have become essential factors in the daily work of the world. The tempering of steel formerly meant no more than the heating of the metal to cherry red; it is now an intricate process requiring a difficult study of temperatures and alloys. And today skill and accurate knowledge in the use of the hands are needed as never before. Clearly, we must immediately have a new sort of school, for children now need the training of their muscles as well as of their minds. And they need the training of their minds thru their muscles.

Few realize how much muscle means to the brain. Yet the brain is taught by the muscles as well as by the two nerves of ear and eye; and fully 98 per cent. of our life is guided by muscular sensation. The baby depends upon it almost wholly during a long period of its early life. Its development thru the training of life and experience is a type of the later education that is practical. Thru its every muscle—above all by its hands—it drinks in knowledge of the outside world. Nor is this importance of the muscle lessened, either in later childhood, or in adult years. And the master organ remains the hand. Almost every animal has a keener eye or ear or nose than man. But man, as he rose from the ground, and gradually threw off his brute inheritance, explored space with a new sense organ—the hand. And this it is that has given him dominion over the world.

The eye thru the nerve of seeing teaches us form and color. We see iron—the gray metal—its crystals, its luster, its surface. But we need to bend and break it; we need to weld and hammer it, file it and test it, and put it to mechanical uses with our hands before we can truly know much about that metal which has become the main carrier of our civilization. The hands interpret what the eyes see. And the eyes become efficient alone thru their muscles. The mechanism of the eye is as perfect in the babe as in the grown man. Yet the babe stretches out its hands for the moon, as if it were within reach. In the end he learns to gauge distance, and he does this thru the muscles of the eye. We now know that we are able to estimate distance by the eye-movement that is necessary to obtain

a perfect focus; that our whole conception of space is built, not upon sensation transmitted by the optic nerve, but upon muscular sensation.

Our buoyancy and depression, the undercurrent of all our consciousness, our very growth, all depend upon muscular sensation. The muscles express the most intimate sensations of the soul. The Romans made a true guess at this, which is preserved in our word "emotion"—a moving out of sensation. Our feelings are most vividly portrayed by gestures and the shifting play of expression that the facial muscles give the face. See an angry man thru a glass door, and you do not need to hear a word to know his state of mind. And so, joy, grief, love, every passing mood and passion has its instantly recognized physical expression.

From the violin the bow draws out its harmonies in a tumult. Yet these harmonies, first in the soul, can only reach the world translated by the muscles—on the one side the swinging arm, wielding the bow; on the other the precise and delicate working of the fingers, now swiftly and daintily touching the strings, now fiercely clutching at them. What is it all but the finest training of a multitude of muscles as well as of the nerve of the ear? And so with the drill of things in practical life—the work of chemist and electrician, surgeon, blacksmith, carpenter; the housewife kneading bread, sewing, bed-making. Skill in all these things is largely muscle knowledge, got thru what is in the truest sense muscle-training.

The muscles are trained more easily than the mind to the quick ways of unconscious habit. We learn in childhood to dress and undress, to walk, to go thru the motions of eating, to perform our many bodily functions without thinking, almost automatically. This is all the more important because it is so largely unconscious.

Grasp the significance of this unnoticed side of life, and you realize the place of huge importance that the training of the muscles should have in the education of our youth. This training and use of all the muscles are necessary for health, particularly in an age when the machine has relieved us of so large a part of the old healthful work of the body; and when, at best, the high specialization of our work brings only part of our muscles into play. Without such training our race will lose in vigor and fall into decadence. The second and third generations of city-bred men, in the past, have always shown a weakling strain. Under stress of twentieth-century life, unless a remedy be found, degeneration will be still more rapid.

And this training thru work is a first necessity for the boy himself; a definite practical education to fit him for any industrial position for which he is mentally and physically capable. He needs it made prominent in his schooling for the development and perfection of the body to its fullest possible effectiveness in normal living. He needs it, even if he is to be a business or professional man, that he may have a sympathetic understanding of the life of those who bear the heaviest burden of the day. He needs it, whatever his occupation in life is to be, in order that he may be an intelli-

gent part of our civilization. He needs it for the zest that it will give to his mental growth and life. He needs it for a full-rounded development of all his powers.

These are the necessities of our daily life that the school immediately must meet. It is no longer in serious question whether we shall, or shall not, have industrial education; whether we shall have the joint training of hand and head and heart in efficient preparation for life. It is now a matter of the quick transformation of our schools to meet this primary need of men—the rapid focusing of educational thought to give this new service to the nation.

How shall we bring about the new school? What shall we eliminate from our present overcrowded course of studies? How shall work be made organically a part of it, and every public school be broadened so as to take in all children, giving the many the training that will fit them for the manual work that they have before them, and giving the few such knowledge as will enable them to enter the university?

These are the questions that cannot be solved by further discussion, but by earnest practical work and practical experiment.

DISCUSSION

George E. Meyers, Principal McKinley Manual Training School, Washington, D.C.—I wish to speak on the organization side of this question. Apparently the importance of providing for a *system* of education that shall give due recognition to vocational preparation from the elementary school to the university is not receiving proper emphasis. It is not enough that industrial arts shall be given a place in the elementary school, and that vocational schools of intermediate grade and technical schools of higher grade shall be established. The different types of schools which are proposed must be brought into relation to one another and to public education generally. This is necessary not only in order that a pupil may pass from a vocational school of one grade to another of the next higher grade, but also, and more important, that the entire field shall be covered—provision shall be made for all—and yet without duplication.

The National Education Association appointed a committee to consider and report on "The Place of the Industries in Public Education." I have been eagerly awaiting the report of this committee, hoping that it would propose a well co-ordinated system of industrial education, which, with due allowance for differences in the industrial activities of different communities, would provide reasonably adequate preparation for all classes of industrial and technical workers. The report is published. It is remarkably clear in definitions of terms and rich in suggestions. It proposes the introduction of the industrial arts in a vital way into the elementary school. It proposes the establishment of intermediate industrial schools, and outlines in comprehensive manner their field and function. It points out the demand for distinctively technical high schools, and indicates the work which should be expected of them. It urges evening industrial improvement schools for adult workers. Yet, valuable as the work of the committee is, it has not done what its name led me to expect of it, viz., to propose a well-co-ordinated plan which would give the industries their legitimate place in public education and thus provide suitable vocational preparation for all classes without unnecessary and wasteful duplication. In fact the committee has submitted three reports instead of one, each, in the main, dealing with a different aspect of the problem but dealing with it independently of the others and from a different point of view.

The committee, however, has discussed in the reports of its three subcommittees most of the features of a comprehensive system of industrial education, even tho it has not brought them together into a system. It is with some hesitation that I shall attempt, in the few minutes allotted me today, to suggest the barest outline of such a system. This outline was first formulated more than a year ago, but in presenting it today I shall make frequent use of the committee's report. To be sure, not all features of the suggested system would find a place in every community. There must be pupils enough available to make a class of fair size or the expense of maintaining the school will be too great. Some of the German states have shown, however, that quite small schools are feasible, much smaller than we are in the habit of thinking of in connection with this subject.

Such a system would involve:

1. A reorganization of elementary education, particularly of the upper grades, so as to make it center around the industrial activities of the community. This would mean not only introducing elements of the principal or type industries of the community into the work of the school, but having the rest of the school work take its cue largely from these industries.

2. Industrial improvement schools for those pupils who leave school at the close of the compulsory-education period. The number of pupils who drop out of school at fourteen years of age will continue to be large no matter what changes are made in the elementary-school course, and no matter what kind of industrial schools are provided above the elementary school. These should be required by law as in Wuerttemberg, Germany, to attend some kind of industrial improvement school a certain number of hours per week for at least two or three years longer, their employers excusing them from work for this purpose.

3. The intermediate industrial schools discussed by the committee with, however, more attention to preparation for specific trades, open to pupils fourteen years of age, whether they have completed the grammar grades or not. These schools would train in a broad way for the high-grade skilled industries, giving attention not only to the concrete work of the trade but also to related technical subjects and the general vocational studies referred to by the committee.

4. Industrial improvement schools for older workers. The night schools conducted in many technical and manual-training high-school buildings are performing this function. In agricultural communities day schools conducted for a short time during the winter months, farmers' institutes and agricultural-college extension work will meet this need, especially on the less concrete side. Of course attendance should be voluntary.

5. Technical high schools open to all who have completed the grammar grades and open also to those who wish to transfer from the intermediate industrial school after the completion of a prescribed amount of work. As stated by the Committee on Industrial Education in Secondary Schools, "the technical high school should have for its main object the preparation of its pupils for efficiency in a large group of important positions in industrial life. Its aim is to cultivate industrial intelligence and those qualities which are essential for efficient industrial leadership." It should, however, be "open at the top" for those who wish to enter higher technical or engineering schools, tho preparation for such schools should be a subsidiary aim.

6. Manual training, related to the industries of the community, in all high schools. This must become a part of any adequate preparation for life-needs because of its educative value, since handwork has so nearly disappeared from the home, and also in order that those who are to go into the professions shall know something of the activities of the industrial classes.

7. Finally, the higher technical and engineering schools of college and university grade. These, already better developed than any other type of school mentioned, constitute a feature of the system whose function is well known.

Paul Kreuzpointner, chairman, Committee on Industrial Education, American Foundrymen's Association, Altoona, Pa.—In discussing the better preparation for life-needs it is not so much a question of the demands of our industries which we have to consider, but the demands of the life-needs of industrial society. The life-needs of modern industrial society are primarily social-economic with education as a means to an end rather than the end itself. The phenomenally rapid development of our industries and material resources created millions of industrial workers for whose educational needs, for whose intellectual and moral standard, for whose social life and economic necessities,

there was no provision made in our educational system, in our political institutions, in our social structure, or in our social traditions and structure.

In the haste of our material development the productive capacity of the industrial worker was pushed to the front, creating the impression that the solution of life-needs was wholly within the range of industrial education and was to be sought in terms of school shop-work and manual-dexterity training. While the acquisition of the latter is necessary in order to secure us our bread and butter, without which we cannot support ourselves and civilization, it is after all the aggregate social-economic activities of society which create those favorable conditions as a result of which industrial demands attract our attention. Thus industrial demands are the effects of a cause, the cause being social-economic activities, and the life-needs to meet these demands successfully and permanently must be found in terms of co-operative endeavor, in terms of civic duty and responsibility, in terms of industrial ethics in the sense that we speak of professional ethics. Industrial education then becomes a means to an end, a tool, as it were, to develop that industrial intelligence among the mass of industrial workers which will aid them to understand that, besides their mechanical efficiency which must secure to them their material welfare, they must aquire likewise the ethical and civic efficiency whereby all of us should be enabled to contribute our share toward those favorable social conditions which we call public welfare, meaning thereby a maximum of social-economic activity in a community and without which the individual cannot prosper.

In other words, the preparation for the life-needs of industrial demands must not only include mathematical precision, manual dexterity, mechanical skill, and the technique of a trade, but must also include that degree of intelligence and culture which must vouchsafe to industrial society a sufficiently high ethical, æsthetic, and intellectual standard of the average individual industrial worker.

This preparation, then, should include a knowledge of the raw materials used in his or her vocation, the rudiments of the processes whereby these raw materials are converted into workable materials and the nature of these materials. This knowledge can be made to serve for an understanding of the meaning of conservation of resources and as an appeal to civic responsibility, thus to be made the means for the teaching of social ethics. Questions of transportation, commerce, export, import, tariff, associations, corporations, labor unions, as these questions are affected by industrial activity and scientific progress and influence the social relations of the body politic.

These and other factors in the make-up of our complex civilization tax the intelligence, the character, the technical knowledge, the economic scrutiny, the patriotic self-sacrifice of the citizen and industrial worker even more than the purely material aspect of the application of one's skill to earning bread and butter. At present we are not well provided with the instrumentalities for such a scheme of preparation, but if we raise the question of better preparation we must keep an ideal before our minds and I am confident pedagogic expertness will be able to use existing instrumentalities of instruction to best advantage.

The Cincinnati plan of continuation schools, as outlined by Professor Ball, seems to promise good results and I am convinced offers at present the best practical solution of a difficult educational situation.

A PRACTICAL SYSTEM FOR GENERAL TRAINING IN INDUSTRIAL EDUCATION

ARTHUR D. DEAN, CHIEF OF DIVISION OF TRADES SCHOOLS, NEW YORK STATE EDUCATION DEPARTMENT, ALBANY, N.Y.

The invitation to speak upon a topic so comprehensive and involved implies that I am either to confine myself to a few glittering generalities and thus avoid the presentation of any definite scheme, or else I am expected to assume that some *one* practical scheme is to be presented and at the same time the audience is to recognize that there are many possible solutions. If industrial education means a re-directing and adapting of our education to fit the economic and social needs of our people, then it is a problem which has no single solution. There will be as many school classifications as there are groups of industries, nearly as many solutions as there are types of communities, and there is no single inflexible course of study nor a single line of procedure.

It would not be within the range of human effort to present before a national body of educators from all sections of the country and from all types of schools a definite plan for the introduction of industrial training. Give just a moment's reflection on the magnitude of the problem before us if the topic is to be taken literally as printed. There are two sexes for which to provide. There are 377 occupations in which they are engaged. They are working in communities ranging in population from four and one-half millions to the small town of Bingville with its ninety-two souls. The wage-earners in the manufacturing industries number seven millions; those in agriculture, ten millions. The capitalization of the manufacturing plants amounts to thirteen billions, while the value of the farms reaches over twenty billions. This "practical scheme" which I am to present is to touch twenty-four million children who are between the ages of five and eighteen, and is to appeal to the intellect and understanding of four hundred and fifty thousand teachers. Do you wonder that I hesitate at accepting the topic as it stands? With your permission I will, therefore, present but one phase—the co-operative system of industrial training—a scheme which will undoubtedly play an important part in the solution of the problem of industrial education.

The rapid development of the manufacturing interests of our country during the past decade, particularly in the metal-working lines, has increased the problem of finding an adequate supply of labor and of a proper degree of efficiency. The modern system of production has had much to do with such conditions. The absence of a definite system of factory training has its share of the responsibility.

Meanwhile, the public school desires to hold its pupils, but youth wants to earn money, and parents ask the eternal question, "What shall we do for our boy?" The mother sees that if her boy goes to work in the average

factory he is likely to fail in learning a trade, while it is almost positive that he will shut the door against that further liberal education which he might get in the high school.

Now, let us imagine that the boy is able to say, "Father, the problem is solved. The co-operative school is about to be opened. In it I will become a skillful machinist, able to earn more than a living immediately upon graduation, and I will also have all the benefits of a high-school education at the same time."

The fundamental principle of the co-operative system is very simple. In brief, it is this: The technique or the practical side of the work is taught only in a shop or store which is working under actual commercial conditions; the science underlying the technique is taught by skilled teachers in a public school.

To many it seems feasible so to organize the public-school system that it will be capable of dealing with all these children—those in school and those out of school. It would seem that a solution of the problem would be some system of co-operation between the schools and the factories for training these young people in industrial and civic efficiency after they have found their work.

There are well-defined and distinct advantages in both systems of industrial training—co-operative and public trade school. It is hardly necessary for partisans on either side to overreach in their arguments. The real issue at stake is not whether the co-operative system is the only proper system of training, but, rather, to what extent each system can find its proper place in American education. There is room for both, and an analysis of the principles involved is well worth while at this point.

Undoubtedly the co-operative system is economical from the standpoint of school equipment. It places upon the taxpayer almost no burden of taxation, as the existing equipment of commercial shops is used. It is obvious, of course, that trade schools are necessarily somewhat expensive. The same may be said of dental, medical, agricultural, and mechanic-arts colleges. But it is doubtful if the public will be willing to make any unjust discriminations based upon financial considerations against a necessary and proper industrial training of the mass of our people who work in the great constructive industries, in favor of those who are engaged in professional work. We must look beyond such a material argument.

It is claimed that educational waste will be avoided in the co-operative system by using foremen in the shops as teachers of shopwork rather than teachers specially trained. Who can guarantee that they will make good teachers? The practical mechanic without pedagogical training may be able to impart to the student the mechanical manipulations of his trade, but if he cannot make the proper connection with the pedagogic end of his work he will be deficient to that extent.

Another point in favor of the co-operative system—one which comes

under the head of educational waste—refers to the fallacy of attempting to give specific trade education in a public trade school to a boy of sixteen years of age when he does not know what trade he wants to learn, or when he can hardly afford to spend three or four years in a trade school without compensation.

Another weakness of the public trade school is said to be the break in the continuity of systematic mental effort which will exist between the period at which the boy dropped out of school at fourteen and the trade-school period when the boy enters it at sixteen; this lack of continuity forcing the trade school to gather up the interrupted, loose, and disorganized threads of mental activity.

If the advocates of the co-operative system feel that they must oppose the public-trade school-movement by such arguments, they have at least furnished a valuable contribution toward an argument for vocational training between fourteen and sixteen. Such training is intended to arouse a set of industrial interests which will require specific training for their satisfaction; the latter training to be given either in the trade school, open to pupils who are sixteen years of age, or in the shops themselves.

Open to boys who are sixteen years of age, the co-operative system makes one strong appeal. It gives them an opportunity of earning something. They are earning while learning, whereas under the trade-school system they do not earn until they have completed their trade education. The co-operative system makes it possible for a child to continue in school, whereas now he is compelled to take a low-grade, poorly paid, unskilled position perhaps without any future prospects either in money or the acquirement of skill.

The co-operative system will naturally serve to keep the business men and employers in constant touch with the public-school system if for no other reason than the selfish incentive to get the most out of it for themselves. Given an opportunity to co-operate, it is expected that they will study the schools with their own needs in mind, and as one result they may possibly become interested and aroused enough to better the schools. At least there can be co-ordination between the school instructor and the shop force. So far, in carrying out the co-operative plan in the different cities that have tried it, the instructors have been acquainted with the local shop practice. They spend part of the time in the shop and part of the time in the school. It is their business to observe the students at their work, to study the shop system and any other matter of interest, noting particularly the everyday shop applications of the various sciences, as mathematics, physics, chemistry, and drawing.

It is expected that the co-operative system can be applied not only to the machine trades but also to the tailoring, baking, butchering, building, or any other trade where the mechanical equipment or natural conditions are somewhat different from the trades which have already adopted it.

Already a department store in New York City has introduced the system. Among other things the salespeople are taught psychology and salesmanship, and are given as much technical knowledge as possible of the things they are selling. In addition, they receive a certain amount of general education.

In many instances where the co-operative system is employed there is an apparent one-sidedness in the agreement between apprentice and employer which it appears might be avoided. While it may be said that all these employers are men of known integrity, on the other hand, the success of the whole scheme depends entirely on their doing what they ought to do. If an agreement is necessary, it seems as if the employer would be likely to stand in much better light with the public if he also was under an equal bond to fulfill some definite agreement. Undoubtedly there is much of value in the co-operative scheme, but before it can have general indorsement, the public must be assured that the plan is so worked out that it results in all-round training and that the half-time idea does not become a half-way scheme.

The pupils that are merely taken into the shops on the half-time, or co-operative plan, may not receive that systematic and progressive advancement in learning the different parts of the industry that is desirable. To a certain extent, the pupils may be exploited for the benefit of the manufacturer, for the money value of the product of the boy's labor often seems to be more determinative to the manufacturer than the pupil's progress in learning the trade. On the other hand, in a public trade school where the work is not carried on under the conditions of a real factory it may be impossible for the pupil to attain a practical skill and efficiency equal to that of a good workman in a factory. Of course much depends on the way the school is conducted. Unless the method of instruction in the school is different from that at present in vogue in our manual-training schools, the workman's time as a factor in the cost of production never can be sufficiently demonstrated to a pupil where his presence and wages do not depend upon his active productive ability. Neither can the time that may properly be used and the skill required for the different operations be sufficiently understood by the pupil until the product is put to actual commercial use and the pupil rewarded for his work in proportion to his perception and adjustment of these factors of production. Perhaps this is the strongest argument for the co-operative plan.

The co-operative system has tremendous advantages. In presenting it I have endeavored to be fair to both the public trade school and the so-called "Cincinnati scheme." Certainly the plan is worth trying. It is very largely based upon a German method. The success of the German system is due not only to the fostering care of a central government but in a large measure to social and economic conditions inherent in the situation. In that country it is taken as a matter of course that employers and

schools will work together to promote thoro industrial training. In such an atmosphere the co-operative scheme can achieve its highest development. In America conditions are different. Employers have not taken, up to the present time, any great interest in the work of the public schools except to criticize them. Neither have schoolmen taken any interest in the labor conditions in our industries. Evidently the co-operative system offers a means of getting together. But if the school authorities adopt this plan simply to avoid spending public money, and employers take up the scheme in order to throw the burden of responsibility of obtaining skilled labor upon the public schools, simply because they have been negligent in the past in doing what may have been their duty, then the scheme is doomed to failure. The co-operative plan must get beyond selfish, personal motives if it is to be a part of an American system of education. Primarily the schools are managed in the interests of their boys and girls. I would not dampen the ardor of those that favor the co-operative system, but no association of employers can be allowed to dictate a system of public education unless it be along lines which are of direct personal advantage to the boys and girls. Then it will not be dictation, but co-operation, and that we all welcome.

THE CONSERVATION OF EDUCATIONAL METHODS

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Perhaps at no time in the history of this country has there been a more persistent cry for conservation than there is at this present day. Whether it be in the domains of the forest, in the realms of the fields, or in the circles of thought and action, the demand for conservation is acute and keenly felt; and it seems particularly proper that the same age which abounds in strenuosity and unrelaxing energy should raise this cry for conservation, for it is not until people begin to realize the ebb of strength and resources that they learn to appreciate the vital necessity of saving and renewing the sinews which will make it possible for the present generation to continue in its struggle for pre-eminence and which will enable the people of tomorrow to continue to completion the undertakings of those of today. Strange tho it may seem to one who views the matter in a calm way, it is not until the woods are on the verge of deforestation that men begin to look about them and raise the cry of conservation for the sake of the future. It is not until our communities are threatened with depopulation from the relentless toil and ceaseless energy of our citizens that we realize the need of conserving the strength of our men, women, and children by inducing them to lead lives of less strenuosity and more reasonable regularity. The lesson of conservation in every path of life is a lesson which America is but beginning to learn and appreciate.

Nor is the field of education an exception to the need for rational conservation. Progression and conservation must go hand in hand in communities and among people where the ultimate welfare of the nation is to be considered. At no age in our nation's development have there been more problems confronting the educational profession than there are today, and likewise, at no time have there been men and women more ready with suggestions and plans to meet these very problems. The diversified interests of our people, the various pursuits of the countless communities of our country—these, and many other causes, have contributed to the necessity which lies before us today to offer a multitude of methods for meeting situations in what appears to us to be the proper manner in each instance.

Our schools and educational institutions at the present time are offering instruction in branches which only a decade ago were thought hardly a part of what the schools of our nation should offer our boys and girls, but which experience and study have shown us must be a part of our curriculum if the public school and its kindred institutions are to meet the demands of the times. It is not necessary for me to go into a detailed account of the variety of courses which our schools are offering at present, for you are all as conversant with this subject as I am. My purpose in this address is to sound the cry of conservation in our methods, to suggest what seems to me a timely thought in keeping with the spirit of the day.

Conservation of educational methods means securing the greatest possible efficiency with the least possible waste of energy—not the stinting of energy where energy is necessary, but the *wasting* of it in multifarious ways where the result can only be the weakening of abilities which are so essentially the fundamentals of whatever success may be ours in the chosen fields of our endeavor. There are millions of young men and young women to be taught today, and there are numberless branches in which they must be taught. The task before the educational profession of this era is stupendous, and the problem of conserving our efforts and our methods so that the greatest good may come of whatever labors we expend is relatively as stupendous. Our duty toward the youth of today must prompt us to arrange our methods in that manner which must prove the most efficacious and effective for all concerned.

Conservation of educational methods appears in the proper placing of studies in the course to avoid duplication, or needless repetition, and in the proper emphasis within the subjects themselves. Waste is specially seen in the treatment of arithmetic, which has too often been needlessly repeated several times in the course, when one proper teaching of the subject rightly placed should suffice. Loss of time and energy also appears in wrong emphasis within the subject itself, when topics are treated at length, which might altogether be omitted or be better considered under algebra. The same might be said of other misplaced and misused subjects. But

I believe it may safely be said that the need of conservation in educational methods applies particularly to the field of industrial education.

Industrial education in the public schools of America is by no means the oldest branch of our curricula; in fact, in its present scope and purpose it is but a child of the present generation. It is but natural, then, that the ideas of educators upon the subject in the line of industrial training must be various and diversified, as are also the methods adopted to present this feature of our educational work to those for whose direct benefit the subjects are offered. That industrial education has come to stay with us forever can no longer be denied by even the opponents of the subject, and recent years have been so fruitful with evidences of the value of this branch of our training that the pros and cons of the argument no longer furnish a fertile field of debate. Industrial education has produced results, and magnificent results, too; and, in an age where men and methods are measured by results accomplished, this branch of school training has commanded and received the praise and indorsement of thinking persons thruout the length and breadth of the civilized world. It remains for the sponsors of industrial education to continue in their chosen duty, progressing as new fields and new methods are developed as the result of experience, thought, and study. It remains also for us to conserve as we progress, to preserve all the while we build and grow.

The idea of conservation will readily be understood when we attempt to apply its precepts to individual features of industrial education and its present-day needs. First of all, let us look at the subject as it relates to the undisputed fact that different communities in our land require certain branches of the curriculum and certain adaptations of those branches more particularly than others, that diversified interests mean diversified training in the industrial and technical schools of those communities. It has well been said that

> psychologists will argue, perhaps, that boys and girls are the same the world over, but educators, without ignoring or gainsaying that fact so far as it goes, must recognize that the boy and the girl on the Florida plantation will grow up into a very different life from that of the boy and girl in the town of Minneapolis; that the boy on the farm will need to be familiar with very different things from those which a girl in a New York flat will need to know. They cannot fail to recognize that tho all men may be born free and equal, they are not many months in outgrowing both freedom and equality. What heredity does not effect, environment will, and the slight residuum of absolute original personality is all the "free and equal" material left which might be common to all children, and that is too abstract and altogether too uncertain to deal with apart from its influences.

So it is not difficult to perceive that the boy in the textile community must be prepared to meet different conditions from those to be met by the lad in the steel centers of the country; and this comparison might be carried on indefinitely. Praiseworthy indeed would it be if the schools of every community in our land could successfully prepare every student to meet

the needs of every other community; but since the days of the school life of our children must necessarily have some limit, and since the possibilities of the schools themselves cannot be both unlimited and consistently thoro, it seems vitally necessary to apply the lesson of conservation in our methods and of concentration in our efforts so that the schools of our communities may serve their environments as they should. It will hardly be practicable for the public schools of Maine to offer their students, not only what Maine communities require of them, but also what communities in far-off Oregon demand. Each community must conserve as much as possible its methods and its energies to enable it to bring into the community young men and young women prepared to carry on the work of that locality. If there be any surplus power and surplus possibility, well and good; but, if it requires all the time and strength of the public school properly to fit its pupils for the work which must necessarily be theirs, let that time and energy be conserved toward that end.

Of course, much of what is true in this respect as regards the industrial training in the public school will not apply so forcibly to those higher institutions of advanced instruction which draw for their patronage from all sections of the country. The young men and young women who enter these schools are evidently preparing to take up their vocations in whatever sections of the country their own inclinations and their own best interests may dictate. It is not necessary, therefore, for the industrial university or technical college to confine its work to any one or several branches of training, for the very purpose of higher educational institutions is to offer advanced and varied courses in their particular fields; but while this may be true as far as limitation in courses of study is concerned, yet these higher institutions must also recognize the application of the theory of conservation and apply it in all its force to each department of such institutions. No one department of any university can successfully attempt to offer complete training in every branch of industrial or other education, but each must conserve its resources in such a way that its specially assigned purpose may best be promoted and that its students may best be prepared to take up their chosen vocations or professions.

Secondly, the theory of conservation strikes us significantly when we consider the fact that by far the greatest number of our children today can remain in the school but a few years at most. Persistent demands for wage-earning persons, brought about by high costs of living and other causes, which belong more properly to the economist than to myself to point out, have made their influences felt so keenly in this age that the children of today are of necessity forced into the sphere of work and hard labor when, in many cases, they should be spending their youthful years in the public school, the high school, or the college. Let me quote briefly what has been said upon this very subject by one who has made a thoro study of this unfortunate condition of life in America today:

How many of all the school children get to the university? How many even enter the high school? As a matter of fact, according to no less an authority than Dr. Elmer Brown, the Commissioner of Education, only 6 per cent. of all the children who enter the primary school ever get as far as the high school. The 94 per cent. are dropping out at every point along the line. Some must leave school at the most critical period of youth without any formed idea of what they are going to make their life's work, except to earn a living, and without any hope of working at a trade for two or three years. The urgent and immediate necessity of earning a living calls many away from school. And what place do these children who do not get to the high school or the trade school, come to have among the world's workers? Of the population of the United States eighty-five per cent. are engaged in some sort of industrial work, whether agriculture, the trades, or household economics.

It must, therefore, readily appear to us that we owe it to our children so to conserve our methods and our teaching that we may offer them the greatest amount of real education possible in the few years which they are permitted to spend under our care and instruction. As I have suggested in connection with the schools of various communities, let me again say that, while it would indeed really be noble if every school could offer every pupil a thoro knowledge and course of instruction in every feature of industrial education, this must be impossible from a practical standpoint for reasons already stated.

It therefore behooves us to arrange our work in such a manner that even the economic demands of our day cannot wholly steal from our children an education in keeping, at least in part, with what their future will require of them. We cannot attempt to include the entire sphere of industrial education in any course which cannot, because of economic conditions, extend over more than a few short years of the child's life. Necessarily, then, we must conserve our methods and apply our strength so that the greatest possible efficiency may be produced in the short space of time allotted to us in which to prepare the young for the battles of the world of labor and of wage-earning possibility.

How particularly does this truth apply to the field of industrial training! For is not this part of the child's education the first which it will be required to use as soon as it embarks upon the course of its employment? We should indeed like to keep the children with us until we have given them all the training in this department which we feel they ought to have, but we must meet conditions as they exist on all sides of us, and we can only do so by properly conserving our energies in the directions which the age demands of us.

Conservation in industrial education is most wisely effected by eliminating bad and useless methods in teaching the trades. Abstract book learning, here as elsewhere, should be reduced to zero; demonstrations by the instructor should be abolished, unless they are used to illustrate specific processes and are followed by actual shop practice. Inductive methods and practical work under skillful supervision should predominate, almost exclusively. Above all things, in industrial schools the pupils should

"learn to do by doing." Thus, with the acquisition of skill, they will learn to think and to express their thoughts readily thru their hands.

I trust I have demonstrated the need for conservation of educational methods, particularly in the field of industrial education. It is altogether impossible to present the subject as definitely and as thoroly as the needs of the moment require in a paper so brief as this one must necessarily be. It is given to me merely to sound the note of suggestion and to prepare the way for consideration; and, if I have brought home to you today the need of conservation even in a meager degree, I shall feel that my remarks have been of some real value, for the subject which I have touched and brought to your attention is one that must of its own accord and importance give you matter for serious and extended thought in the immediate future. Conservation is the cry of the twentieth century, and twentieth-century educators will not be long to recognize its vital application in the fields of thought and of education.

THE TRAINING OF TEACHERS FOR INDUSTRIAL WORK

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The Manual Training Department of the National Education Association has been criticized because it seems to be changing front and devoting its program to a discussion of industrial or vocational training; but it seems to me the eminently proper place to discuss it. The manual-training leaders have been the first to recognize that their work had its shortcomings, and does not meet all the needs, but, with its proper place in the school scheme, it should lay the necessary foundation for the separate industrial school, and much that I shall have to say about teachers for the frankly vocational school applies with almost equal force to the teachers of manual training both in the grades and the high school.

There are two reasons why our manual training has received so much adverse criticism. First, a sufficient amount of time has never been devoted to it. The manual-training teacher quite generally has to handle between three and five hundred different pupils weekly, an impossible task for any but a very unusual teacher. Second, the compensation has not been at all adequate to command the talent required. Probably many of us are familiar with letters inquiring for a manual-training teacher who must have a long list of qualifications and be willing to accept $800 or $1,000 a year.

With perhaps the exception of commercial education in the high school, this work will give us the first opportunity to have our product measured squarely by a definite standard, the needs of the industries for which we are training, and if the product falls below the standard, our work will be considered a failure, at least from the standpoint of industrial demands. Like all other school work, its success will depend primarily upon the

teacher; if we get the right kind, it will be successful; if we blunder, the worst kind of failure will be recorded.

It is my purpose in this paper to deal with the question of the selection and training of the teachers of this new kind of work which is planned to meet the needs of the boys and girls who are not now being reached by the manual training in the grammar grades, or by the technical training of the high school. Both the high-school courses and the work in the upper grades should be closely related to industrial life, but so far we seem to have failed in this respect, the boys in the grammar grades usually getting too little manual work, and the boys in the high school being educated beyond the point of being workmen, so in addition we must have the industrial school for boys of fourteen years who need to be educated thru doing.

I fear that many superintendents who have not yet introduced manual training will be carried away by the sentiment in favor of industrial education and will introduce a course under the name of industrial training which can be nothing more than manual training, and, of course, will fall short of educating along industrial lines, a plan which can but injure both the general and the special industrial work.

While an average of an hour a week has been devoted to manual training, for the shopwork in an industrial school worthy of the name we should have not less than twenty hours, and in about this proportion the teachers of the industrial schools must be better equipped on the shop or *practical* side of their work. While it will probably continue to be the practice, and I believe that it is a desirable one, for the grade manual-training teachers to be school-trained men with shop experience and sympathies which should be gained by working at a trade during the summer vacation, the teachers of the industrial school must be the very best and most broadly trained workmen whom we can find.

If it is granted that we must go to the trades for our teachers of industrial work, we must then decide upon the means for training them to teach. The ideal would be a two or three-year day-normal course but the financial condition of the men in the industries will lead us to conclude that this training cannot be given in the existing normal schools, certainly not in their day courses. It will have to be given in continuation courses, and should follow three lines: first, such further training along the line of their crafts as will enable them to teach more than one special part of their trade; second, training which will show them the place of their future school work in the general educational scheme, with such studies in psychology and pedagogy as will enable them to understand their pupils and present their subject-matter properly; third, further academic training along lines related to their trade, with the expectation that they will teach at least one academic subject in addition to the theoretical part of the mechanical work they may have.

Those who are preparing to be teachers of industrial work must keep

clearly in mind two things: first, that there is a definite need in the schools for industrial training, and that it will be given to the pupils who are not reached by the academic subjects. They are usually the more difficult ones to reach, and it requires men and women who understand boys and girls and who know how to teach them and to sympathize with them. From this standpoint only the most skillful teaching will avail and in addition we must have men and women who have their technical subject-matter well in hand. As it is next to impossible to find a thoroly equipped mechanic in any given line of industrial work, our task will be indeed a difficult one.

How shall these people be selected? How can we give them this training? What shall their compensation be? Of course, only the most capable and best-trained men should be chosen. If the training is to be done at the expense of the state, it will be wise to have an age limit, say thirty years, for two reasons. First, a man has more energy and adaptability at this age, and second, his period of service will probably be longer. On the other hand, men of this age are not likely to have had the broadest shop experience, if indeed we can find a man of any age who has. This will necessitate a course along the third line suggested, further experience in their crafts. Since the training will have to be secured mainly thru continuation courses, we shall be able to use our present school plants; also some of the teachers in our existing schools would probably be available. We should have a complete and thoro course which will extend over a period of three or four years of evening work. The men who take such a course will have to make considerable sacrifice in time and energy, and in some of the industries, it will probably necessitate a sacrifice in salary as well. For this reason, in order to induce men to undertake such a course of training as they should receive, school authorities must offer inducements greater than those in the shops at the present time. The inducement certainly will not be found in easier work, hence it must be in financial compensation. The minimum salary should be $1,300 or $1,400 a year, and should be increased as teaching efficiency increases.

There are few lines of industrial work in which we can find workmen who are masters of the whole trade. Of the skilled trades, pattern-making probably produces more all-round mechanics than any other; yet even this is divided into two branches. In machine-work it is still more difficult, while in the shoe industry it would probably be impossible to find such a person. As it is impracticable to employ a man for each of the different branches, changing from one machine to another will be a necessary part of the training. Some time should be spent in visiting other shops and reporting on the work and methods used. The training which will enable these prospective teachers to see the proper place of their work in the educational scheme, with further training in the theory of their work, might well be given in an evening trade school where practice-teaching

could be done. All this will take time, but I have reason to believe that if we offer proper inducements, we shall find men who will take such a course. In the meantime, we must have teachers, and the only solution for the present is to attract the best men available, and make it worth while for them to take up teaching. We must see to it that their summers are profitably spent for professional improvement.

We have been a long time coming to the point where we are willing to give to the boy who is going into the industries the same chance that we give to his brother who is going to college, and now that we are facing the problem of training his teacher, let us do the right thing and give him the best to be had.

DISCUSSION

Alvin E. Dodd, director, North Bennet Street Industrial School, Boston, Mass.—I want to emphasize and enlarge a little on the significance of one statement in Mr. Murray's paper. He says that those who are preparing to be teachers of industrial work must keep clearly in mind two things: first, that there is a definite need in the schools for industrial training, and that it will be given to the pupils who are not reached by the academic subjects. They are usually the more difficult ones to reach, and it requires men and women who understand boys and girls and who know how to teach them and to sympathize with them.

Altho there has been an earnest "feeling after" the needs of young people in shaping manual courses of work, this has in the past been confined mainly to deciding whether a piece of construction was proper at a given time. None know better than those of us who are in the business how deplorably weak have been the teachers in their perspective on the human or social relationships of both their work and themselves, to their pupils.

As our department of educational work has grown, the complexity of the problem of social and economic betterment has come to the consciousness of a few of the leaders and those few are realizing that it is of vital importance that teachers should have not only a broader knowledge of trade conditions and requirements and the means for preparing to meet them, but also an intensive knowledge of the economic and social status of those in their charge. Only by such knowledge can it be determined what opportunities and incentives will appeal and how far young people will be able to use such a knowledge of opportunities.

Try to involve yourself with human life at as many points as possible, and you must always press beyond the individual and the family into the subtle network of community relations, into a complex little universe of human strivings. President Lowell, who is a yachtsman as well as a college president, has likened a democratic community to a jellyfish—if it is not lifted all together, it breaks.

In terms applicable to an industrial teacher, no matter how much skill of hand you develop in your pupils, you have given them very little unless you show them something of the relationships of that skill. This is manual training, plus ———. And this recognition and understanding of social relationships is to be the path of progress for the teacher of industrial work who, during the next few years, will be in largest demand and who will rise highest in his position.

As Professor Carleton puts it, "The greatest wealth of a modern nation is its citizenship and this, thanks to the industrial factor, is chiefly a social product. The industrial factor is the chief in modern social, political, educational problems, because industry is the determining factor in fixing the conditions of living, working, associating, and resting." And yet how many industrial teachers have made real efforts to obtain any sociological background for their work?

The teacher of industrial subjects is the one above all others who should know something about the working conditions in various industries—the hours of labor, laws and regulations, wages—and be able to give such notions as shall be of large assistance toward the proper selection of a vocation.

In no department of school work does a boy show himself as he really is to such an extent as in the shop, and therein lies the great opportunity for the industrial teacher to help in guiding his pupils in the choice of life-work. Such help is precisely what President Eliot advocated at the Chicago meeting of the National Society for the Promotion of Industrial Education, but which was so generally misunderstood.

That this is a perfectly feasible thing to do is evidenced by the Vocation Bureau in Boston which is gathering data that can be used in counseling young people. The Boston School Committee has recently appointed a committee from the Vocation Bureau to help train vocation counsellors of which over one hundred have been appointed for service in the Boston Public Schools.

It is interesting to note, however, that the very men who ought to be the ones best fitted for such service, namely, the manual-training and industrial teachers, were, with only two or three exceptions, not asked to take up this work. The reasons are obvious ones.

Paul Kreuzpointner, chairman, Committee on Industrial Education, American Foundrymen's Association, Altoona, Pa.—The question of trained teachers for the coming industrial and trade schools is a serious one with us in this country and deserves the earnest consideration of our educators and teachers' training schools. I have often been asked how the German industrial and trade schools obtain desirable teachers. In answer to my inquiry, Dr. G. Kirchensteiner, superintendent of schools of Munich, Germany, kindly furnished me the following statement concerning the method in vogue in Munich to obtain the necessary teachers for the trade schools of that city.

There are two sets of teachers of these schools, the academic-trained teacher for the academic subjects and the expert mechanic for the mechanical part of the instruction. The academic-trained teacher, when detailed to teach in a trade or industrial school, is frequently furloughed for a given number of months to work in a shop of the trade he is detailed to teach. Not, however, for the purpose of learning that trade, but to familiarize himself with the business language and business method of that trade, so that he may be able to apply the knowledge for the benefit of the pupils whom he is to instruct.

For the instruction of the mechanical part of the trade school only expert mechanics are engaged. If, in the course of two years or so, these experts prove their inability to teach, they are dismissed and other ones engaged in their stead at whatever expense. However, in trades like those of carpenters, machinists, etc., where expert mechanics are more numerous, there are always some who desire to become permanent trade-school teachers with a state teacher's certificate.

These have to submit to the following rules:

I Conditions of admittance:
- *a*) Proof of having attended a trade or technical school for at least three years.
- *b*) Proof of practical trade education and practice.
- *c*) Presentation of drawings and specimen of practical workmanship.
- *d*) Possession of: certificate of dismissal from school, certificate of health and good physical condition, certificate of employment in practical work of the trade.

Provision *a* may be modified by the candidate attending a trade school during the time of his provisional engagement as a teacher.

II Condition for examination:
- *a*) Production of drawings demanded by the board of examiners.
- *b*) Proof of sufficient knowledge of the materials used and technical knowledge pertaining to the trade.
- *c*) Production of specimen of workmanship in conformity with the drawings.
- *d*) Estimates of cost of the work done and material used.

III Rules concerning time and duration of examination:
- *a*) Examination is to take place before beginning of the school year so as to enable the candidate to be present at the opening of the school.
- *b*) The examination may be extended over a period of seven hours.

IV Conditions for the one year's candidacy. The candidate is obliged:
- *a*) To be present in the school shop every day from 8 to 12 A.M. and from 2 to 6 P.M.
- *b*) To attend the technological lectures and assist the lecturer.
- *c*) To carry out the details of the curriculum, to make the necessary working-drawings, and to give trial lessons.
- *d*) According to time and opportunity to keep in proper condition the collection of models and technological apparatus.

During the one year's provisional engagement the candidate receives no compensation whatever, nor acquires the candidate thereby the right to a teacher's position. Only if the candidate shows extraordinary ability and qualifications may he make application, after six months, for part compensation.

V Conditions for admittance as teacher after the completion of the provisional year: Toward the end of the school year the candidate has to pass an examination, consisting of candidate's making a drawing in the presence of the pupils, who afterwards have to execute the same drawing and to produce the object represented by the drawing, under the direction of the candidate. Upon the strength of the candidate's successfully passing the examination he may be given a temporary position as a teacher.

VI Conditions under which a candidate may receive a permanent engagement as a trade-school teacher after three years of temporary service:
- *a*) Presentation of drawings and specimen of workmanship executed by the candidate.
- *b*) Estimate of cost of a piece of work according to drawing given by the examiner.
- *c*) Production of an essay on some subject pertaining to the trade.
- *d*) Lecture on some subject pertaining to the trade, knowledge of tools, drawing, bookkeeping, and estimating cost of production.

In case the candidate fails in his first examination, a second examination is permissible. Permanent teachers' certificate will be given only after the successful passing of the examination.

ART AS A MEDIUM FOR LIBERAL EDUCATION

C. VALENTINE KIRBY, DIRECTOR OF ART INSTRUCTION, PUBLIC SCHOOLS, BUFFALO, N.Y.

The subject assigned me appears upon first thought to be a delightful one fairly effervescing with rich inspirational material for our discussion today, but upon further consideration its very suggestiveness fills me with embarrassment since we have never reached a consensus of opinion as to an ideal definition either of art or liberal education.

To some art is, "man's thought expressed in his handiwork," "the power of impressing on matter the stamp of mind," "the inventive use of tools and materials."

To others it implies "the unfolding of personality," or the "harmonic expression of human emotions;" and I believe it was Emerson who defined is as "nature passed thru the alembic of man," and still to others it is just "the expression of joy in a man's work."

The art-instinct is common to all, and altho its manifestations may differ in degree and kind they are substantially the same in essence; not alone the painter and the poet, but the mechanic and the merchant are

artists as they reconstruct existing elements to realize an ideal. "Art in its highest sense is but the faculty of expression" (Crane).

As to the constituents of a liberal education we seem to be even farther at sea, but are earnestly seeking upon this and like occasions to understand its true significance in the light of the twentieth-century demands; but may I not assume that in the main we understand liberal education to imply a conversance with the life of the past and the demands of the present, to the end that the young may be prepared for an active, intellectual, and moral participation in the civilization of our time?

From the beginning, two great instinctive forces have worked in man impelling him to expression. These are the demands of necessity leading to invention, and the demands of his emotional nature to satisfy his longings. Someone has reminded us that "the art of infancy is the infancy of art." In the crude, often grotesque art of the past we read man's attempts to supply his simple needs and satisfy his primitive tastes, and we see a people in process of evolution as they applied nature's forms and forces to their inventions and sought to beautify them in accordance with the principles of order, unity, balance, rhythm, and harmony. When these people passed away their art was all that remained and in it we largely read the history of their civilization, a book of art that records not alone their thoughts, but their deepest and best feelings as well. Art has ever been a medium for liberal education, for it has been the vehicle for its propagation and dissemination. As our education opens the door to the world of art, the world that man has created, and we contemplate the mighty works of architecture, sculpture, painting, music, and literature, we are so impressed by characters and scenes bearing in turn the mighty impress of the artists who created them that we follow where they have led, hoping by so doing to reach the same heights.

In our public art education we should have a consideration for the capacities and needs of the many rather than for the talents of the few, with faith in the potentialities of all. We should assume that all can draw and build, as others assume that all can write and cipher; and while we cannot expect to make many great artists, shall we not be better teachers if we look at each child as a possible Milton or Michelangelo?

We must not forget that our aim should be the boy and not the box; it should not be the drawing that may be hung upon the wall, but the faculties that may be developed in the child. If these premises are correct, I believe that our public-school art education has a particular significance as a medium for a liberal education, since it has for its prime aim the training of the senses and the co-ordination of the potential but very discordant faculties of the child. Is it not true that efficiency and fitness for life's work are primarily dependent upon the harmonious working of the motor and sensory centers of the human machine, and that drawing, the basis of all man's creations, is the best vehicle for insuring such control in the young?

Equipped with true eyes and obedient hands one has the fundamental requisites for insuring success along many lines and an ever-increasing efficiency for life's work, as well as a greater appreciation of its beauties.

This mobility acquired in early years not only furnishes the "mechanical expertness" in all lines of expression, which Goethe talks about, but it goes farther and lays the foundation for intellectual development as well.

Biology teaches that the more the senses are co-ordinated the higher the type. As art teachers we should be quick to appropriate what the psychologist recognizes, namely, that the brain is developed primarily by muscular control in response to sense-impressions and that this mutual relationship is one of the most constant factors in nature. The men of all time who have been the greatest representatives of our race have carried the dexterity of their hands to the highest degree of perfection. May we not find the secret of the genius of the ancient Greeks in their bodily exercise and muscular control? Lucia della Robbia, Ghiberti, Andrea del Sarto, Michelangelo, Raphael, the greatest artists the world has seen, were craftsmen, mechanics, inventors, soldiers, men of affairs. Angelo Mosso says, "I am convinced that muscular movements have formed the omnipotence of genius." As a further argument we may point with some degree of pride to the development and enlargement thru the work in which we are engaged of such vitally essential faculties as attention and the power of accurate observation, which is the basis for clear perception and sound reasoning. We might also mention the enhanced joy of living thru the refinement of the color-sense. Thru design one learns the importance of orderly arrangement and obedience to law. As the hand and mind jointly operate in registering the facts of nature and art, and recreating them in a new order, the memory is trained and the imagination quickened. The ability to think clearly and plan logically is quite as essential to commercial success as to art achievement; moreover, this continual stimulation thru expressive training makes the completion of the thought-circuit a habit, the dreamer becomes a doer, and the dream a reality prized for all time.

It is not necessary for me to remind you of the importance of drawing and the various art-activities as a correlative force in our general scheme of liberal education. The intimate correlation of drawing with nearly all of the school studies not only makes the pursuit of these studies more attractive, but the facts gathered from them, which might otherwise be hazy and fleeting, permanent and lasting, an experience to be remembered always.

The correlation of construction work of all kinds with mathematics, based as it is upon real things and their demands of careful plans and accurate dimensions, has long been practiced. The educational value of construction work in clay, cardboard, wood, and metal is incalculable, developing as such work should the sense of touch, the muscular sense, and a real understanding of three dimensions. We must have clear-cut images

and concrete concepts before we can expect to have abstract idealizations. Let me quote here from Dean Shaler:

> The value of drawing in all departments of science, not only as a language but as a discipline of the mind, can hardly be overestimated. Many students entering Harvard University can think in one dimension, some few in two dimensions, but those who can think in three dimensions are exceedingly rare.

Dr. Eliot has expressed himself as follows:

> I have recently examined all the courses offered by the university and I find but one, (the course in theology) in which a knowledge of drawing would not be of immediate value, and even there I think it might help in some cases. The power to draw is greatly needed in all the courses and absolutely indispensable in some of them. A very large proportion of studies now train the memory, a very small proportion train the power to see straight and do straight, which is the basis of industrial skill.

Nor does our art training stop with the training of the senses and the awakening of the imagination: it goes farther than the development of the physical and intellectual natures, it penetrates man's spiritual nature and bears the fruits of morality and happiness. In our mad rush for material gain we must not forget that after all these are but the means to a more satisfying end, an end in which we may find joyful rest and relaxation.

Dr. Eliot, in addressing a body of art teachers last year, said:

> Your service to the community is threefold; you train the eyes and the hands of the children, and give them another means of expressing and recording what they see; you develop artistic quality in our national industries, and so promote the intellectual interests of the men and women employed in them; and you cultivate in the population at large the precious sense of beauty. Are not these worthy objects for the work of our lives?
>
> You need to have a liberal addition made to the time spent in the artistic subjects in our educational institutions, you need a better appreciation on the part of the guardians of educational institutions of the high possibilities of art education, and you need a more general sympathy on the part of the public with your calling.

We are engaged in a great work upon precious plastic material and with the tried tools of the ages. We must dignify our work by our attitude toward it and be so conversant with its deeper significance that we may make others respect it as they should in the interests of all. For our part, we must command this respect by a wise discrimination between the true and the false, between the real aims and tried methods and the superficial fads and fancies of the moment.

Art is indeed a medium for liberal education working ever for the more efficient individual, the richer personality, and the fuller life, and as such it should receive from our higher institutions of learning and those in authority a recognition and due credit commensurate with its aims and achievements.

In closing, permit me to say that it would be most presumptuous on my part to assume that I had brought you anything new or original today. I have, however, sought to remind you of old truths, and if my thesis is correct, it is an arraignment against those who call themselves educators and still believe that a liberal education is confined to words and books, and look

upon our work as a mere appendage, permitting its operation and confining its practice to one or two school periods a week, when it is worthy of being the very root and core of our educational system.

THE ADVANCEMENT OF DRAWING AND ART TEACHING IN OUR PUBLIC SCHOOLS AS COMPARED WITH THE ADVANCEMENT MADE IN FOREIGN COUNTRIES

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A comparative study of European and American methods of promulgating art education among the masses inevitably brings to mind the exhibitions of the International Art Congress, held in London during the summer of 1908. Interesting and significant as these exhibitions were, their best contribution to the cause they represented has been the discussion that they have prompted among students of education in all parts of the world. It is not so much what we saw there, as it is the conclusions that we have drawn and the questions that have been raised from what we saw, that has made the Congress so important an element in the development of art education in all countries of the civilized earth.

The ideals of a nation determine its educational policy; what a country really desires, that will she train her children to attain. All countries do not cherish the same ideals, and therefore we find a difference in the educational policies of the nations. England has stood for centuries for classical education and for culture. Rugby and Oxford are famous as the seats of great classical schools, founded on traditional ideals. England teaches the boys of her upper classes the things that their fathers were taught—the things "that a gentleman should know." As a result we find in the educated English gentleman of today, the delightful scholar, the born aristocrat, with centuries of culture behind him, speaking the English language with a purity and an elegance that delight the ear to hear. But we find that cultured gentleman out of sympathy with the industrial classes, without an understanding of their problems, unable to legislate wisely in the behalf of those classes, upon whose welfare and industrial attainments the fate of the nation depends. England has been content to educate a comparatively small number of her people for a life of leisure and of culture; she has neglected to educate her masses in a way that would lead them to idealize in any way their daily toil. Because of her devotion to learning and to tradition, she has sacrificed her position as mistress of the manufacturing and commercial world, and has been surpassed in these respects by both Germany and France.

A half-century ago she awoke to the gravity of the situation and looked about her. She found at that time that France was taking away her foreign trade, and a royal commission was appointed to investigate the cause.

The commission reported that the manufactured products of France were of a much higher standard than those of England; that the French wares were marked by a certain artistic elegance that was lacking in English products. This artistic characteristic found for French products a readier market and a better price. What did England do about it? She saw that her workmen, her industrial classes, her common people, must in some way attain the good taste and the skill possessed by French workers, and so, entirely in the interests of industry, she endeavored to correct her faulty educational scheme, and introduced drawing into her public schools. Not the least interesting of the sights that London offered to her visitors in 1908 was the Franco-British Exposition, where the products of the two countries were marvelously arranged in competitive display. Few of the art teachers who came to the Congress visited the Exposition at Shepherd's Bush, yet there they might have seen the real result of art teaching in two mighty countries, not in the imperfect tasks of children, but in the products of mature minds and practiced artisans. The real results of public-school instruction are shown in the products of the masses of the people, and not in the school exhibitions that we school teachers flock to see. The test of our teaching lies in the quality of our country's manufactures, in the contents of our stores, in the ways in which we spend our money, in the habits of our people.

We have said that the ideals of the different nations are expressed in the work of their peoples. Let us look for a moment at Germany. We think at once of her technical schools, her researches in science, her hospitals, her wonderful Krupp guns, her battleships, her general scientific and industrial supremacy. The label "Made in Germany" is found on innumerable articles of daily use in our own and in other countries. Germany has filled the markets of the whole world with her manufactured products. We, in America, buy largely from her and so do other countries. In her wares we do not find, it is true, that essence of art that puts the product in the highest class, but her goods are solid and worthy, and they fill a need. She has surpassed England in educating her masses along industrial lines. What Germany should endeavor to do now is to make her industries artistic. In her educational preparation for industry she has overemphasized technical excellence and has thought too much of utility.

In France, since the days of Napoleon, all children have been taught to draw. Up to the present time, instruction in drawing has been based on the ideals of the French academies and art schools, with little regard to educational conditions, or to the life-interests of children. The teachers of drawing in France have all been trained in her great art schools to a high degree of technical excellence and skill. As a result, they have carried to the children the methods of the art schools. They have insisted on getting from the children precision of outline and accuracy of form. Their drawing has lacked freedom, spontaneity, and content. It has not been taught as a

means of expression of what children think, see, and feel, but as an exhibition of skill in the delineation of form, and in the portrayal of traditional ideas of decorative design. Such training has made France a nation of draftsmen. France has taught art for the sake of art. The manner of rendering has been the point of emphasis, and she has trained a large industrial class to appreciate beauty of line, proportion, and color. As a result, her industries have been marked by a certain refinement and elegance which have made her the envy of the commercial world. Yet, are we willing to adopt in the American schools the methods and the processes followed in France? By no means! We already recognize as one of our troubles the inability of the teacher of art, trained in an art school, to cope with the problems that she meets in our public-school systems. The attempt to follow academic ideals, to teach art-theories and art-processes without regard to the rest of a child's education, has already, in our country, met with failure and defeat. We in America are not to teach the classics for the sake of the classics, we are not to teach trades and industries for the sake of trades and industries, we are not to teach art for the sake of art, but we are to take as our task the teaching of the child, and we are to give him something of classic culture, something of industrial intelligence and understanding, something of artistic appreciation and skill, and something greater than any of these—that spiritual uplift which is the highest and best result of education and of discipline of any kind.

What is the educational ideal for America? And in the development of this ideal, how much of a factor is the teaching of art? Like England, Germany, and France we are, or we are rapidly becoming, an industrial nation. We are dissatisfied with our present organization of school work. We realize that in this country, as in England, our schools have placed the emphasis upon literary and intellectual studies to the exclusion, heretofore, of those studies that relate to the practical arts and to industry. We wish to correct this overemphasis of books and of letters, and to attain, not less culture in proportion to industrial intelligence, but a broader culture. But we do not wish to follow too closely in the footsteps of Germany, because even if the results she has secured are satisfactory to Germany they would not be satisfactory to us in America. The trade school does not seem to flourish here as the ideal of secondary education, or as a substitute for our much-criticized high schools. We are willing that trade schools shall be established for "the other fellow," but we do not wish to send our son or our daughter to be trained exclusively for some trade—to become, for instance, a plumber or a milliner. We desire rather that our boys and girls shall have the opportunity for development along many lines—that their schooling shall consist of a certain proportion of literary work, a certain proportion of "shop" or industrial work, a certain proportion of physical discipline and training, and a certain proportion of practice in the fine arts, such as drawing, music, etc.

So far as the teaching of art is concerned, there appears to be a greater necessity than ever before for a wiser and broader application of the principles and the spirit of art. Industry demands from its workers greater skill of hand, better execution along every line, more knowledge of the artistic accomplishment of the past; and from the patrons of industry—the buyers and consumers of the manufactured products—there must develop a more general appreciation of quality, and a deeper sense of beauty. "What can we do," asks Dr. Ross, "to bring the spirit of art into the life we are living and into the work we are doing?" Back in the seventies the state of Massachusetts sought to improve the industrial output of her factories by providing free instruction in drawing, not only for children, but for all men and women in towns of more than five thousand inhabitants. A normal school for the training of teachers of drawing was established in Boston in 1873 and the introduction of so-called industrial drawing became general, not only in the public schools of the state, but thruout the country. But the industrial drawing of those days had little of the spirit of art within it. Such design as was taught was geometric and formal, and was seldom "applied," as we now understand the word.

Rapidly developing educational philosophy soon pointed the way to another kind of drawing—the drawing that expressed a mental concept or an impression of the child. The drawing in our schools then became a language—crude and imperfect, but still an expression of thought, and so it was better for the children than the formal and to them meaningless flat copies that had prevailed at first. For a time drawing was looked upon as a means of expression, and pictorial work dominated our art courses. Industrial drawing was almost forgotten in our public schools. The paint-box came into general use, and for a while we went quite mad over color—color as a means of expression, not color harmony as an element in design. Then came the movement for manual training, and for the crafts, and now we find ourselves facing the problem of industrial drawing again. But with what a different point of view than we had in the seventies! We have gained much from our thirty years' experience, and we shall bring a greater intelligence to bear upon our reorganized or modified courses of study.

The movement for vocational work is bound to react forcibly on art teaching, demanding not less teaching of art, but looking for more definite and tangible results. A much closer union must exist between two departments "that never can be sundered without tears"—the departments of drawing and manual training. Each needs the assistance of the other. The art teacher who withdraws herself from contact with the physical materials upon which the manual-training teacher relies for expression will find her power decreasing and her sphere of influence diminishing in proportion to the degree of her withdrawal.

In our teaching we must get into more intimate touch with industry. We who stand for art must employ every means—mental, spiritual, and physi-

cal—to bring our message to the understanding of the common, everyday citizen. If we have failed to do this with our picture-making and color-work, or in our carefully formulated theories of design, clear enough to us, perhaps, but vague and indefinite and "up in the air" to the practical mind of the layman, then let us try the new way. Let us show in the thousand ways that are open to us that art is like the small boy's definition of salt: "It is what makes things taste bad when it is left out." Art is like many good things—it is like religion, of greatest good when in service. To have ideals and not use them is worse than to have no ideals at all. Let art teachers serve the cause of education, then, remembering that "the greatest is he that serveth." Art is like poetry or song, as Edwin Markham has beautifully expressed it in his poem

SONG MADE FLESH

I have no glory in these songs of mine:
If one of them has made a brother strong,
It came down from the peaks of the divine,
I heard it in the heaven of Lyric Song.

The one who builds the poem into fact,
He is the rightful owner of it all;
The pale words are with God's own power packed,
When brave souls answer to the bugle-call.

And so I ask no man to praise my song,
But I would have him build it in his soul,
For that great praise would make me glad and strong,
And build my poem to a perfect whole.

In a magazine the other day, I came across a short dissertation on "Imagination." It is written by Charles Ferguson, and is so fine that I am going to risk the charge of triteness and close my paper with a quotation—because this paragraph contains all that I would like to have said, if my own imagination and my executive powers had been sufficiently quickened:

If a supremely great man—wise above others to see the truth in its proportion and put the first thing first—were summoned suddenly to die, and were given a moment only to sum up his discovery of life I think he would say in substance what follows. I think so because this is, as I understand it, the message—not in words, but in the sense of them—that was actually given to the world by the Greatest Man we know:

The secret of beauty and power lies in the right use of the imagination, for it is the imagination—the ability to conceive things that do not exist—that distinguishes men from animals and makes it possible for men to escape from creaturehood and become creators. Now the right use of this faculty to conceive delightful things that do not exist, is to *make* them exist. If the faculty be otherwise used—used to accuse or deceive others, or to create a mere no-man's land of dreams—it will in the end make one sick and impatient, and spread disease and weakness all around one.

To have ideals and not use them is sin and death.

Those who live well are those who by faith, daily perform the miracles of making some coarse thing fine—by some adventure of the creative imagination.

The charm of a woman is not in the delicacy of her ideals, but in her daring to use

them in homely circumstances. The dignity and fame of a man consist at once in his being idealistic and executive—driving the sword of his spirit deep into the bowels of fact.

The heavens above us are latent with creative lightning, and the gross earth electric with expectation. The imagination reaches for the thunderbolt to subdue the earth. And the secret of beauty and power is to make one's own body the vehicle of the fire from heaven.

DRAWING AND ITS RELATION TO THE ARTS AND CRAFTS OF THE PUBLIC SCHOOLS

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We have come a long way in the theory and practice of education since the comfortable, untroubled, pedagogy-less days scarcely a generation ago when the only drawing taught in any of the schools materialized in the poor but proud efforts of the boarding-school girl. Brought home and placed on the wall to be admired by fond relatives and envious visitors, these *pictures* of impossible deer and horses, cavorting without regard to anatomy over landscapes with woolly waterfalls and foamy trees against horizons baffling the scientist—pictures copied from other pictures hardly less remarkable—these were the first outpourings of the schoolgirl's artistic soul. And when from these pencil and crayon drawings the talented young lady was promoted next year into the oil class, she was reverently spoken of as an "artist."

The art institutes, meanwhile, were specializing in "art for art's sake," as a thing wholly apart from common life and its interests—drawing and painting pictures the whole term thru for the annual exhibition. Except for the mechanical-drawing classes that later came to be held at night for working men and boys, these schools permitted no practical or utilitarian purpose to creep into the hallowed circle of their ideals.

Efforts to bring drawing into the public school on any plea failed again and again, until but a comparatively few years ago. Then it was granted a reluctant admittance by grace of its "cultural," "pedagogical," or "psychological" value—it is difficult to decide which, for this value manifested itself like the acquiring of it, in a very abstract, totally unrelated way, having no connection with anything in or out of school other than the straight lines—horizontal, vertical, oblique—the angles, triangles, circles, cubes, and cylinders at the top of the page in the drawing-book, placed there in systematic order to be *copied* with great precision.

It is small wonder that, to quote from the experience of a supervisor of drawing in those days, the highest ambition of the pupil was to turn the pages as fast as possible until with unspeakable joy the tombstone—the first intelligible combination of these lines—was finally reached on the last page.

Never a thought of drawing from life, never a pencil stroke that might

directly or indirectly add beauty to anything, no thought of any possible application of these senseless "straight" and "curved" lines. Making a correct copy was the end and aim of drawing in the public schools—an end that was in some way indefinitely entangled with the "pedagogical" and "cultural" value of the subject. In this training with a single view to precision, skill and quickness, drawing was half-brother to the earlier forms of manual training.

A little later, even in the public schools, drawing became recognized as having a real reason for being; it was recognized as a medium of expression, as another language than the language of words, a language that could say things words are inadequate to say. Then it began to be correlated with geography, history, arithmetic, English, until eventually no subject could be taught intelligently without it. It became picture-making, composition, working-plans. It had begun to have some life, some meaning, some concrete relation. It was lifted from the field of the fine arts in which but few even of the called are chosen, into a broader, more practical field, useful and open to all. It became an expression of ideas.

With the introduction of manual training it grew to be still further vitalized, not merely a practical but a necessary adjunct of hand-training, a means of closer communication between the brain and the hand, a medium between "thinking" and "doing." And now that the influence of manual training has gone forth into two broad territories—the arts and crafts and industrial training—and both of these are becoming intimately interwoven with the general system of education, any question as to the value of drawing in connection with these studies seems more for the sake of argument than for any necessity for conviction.

As the arts and crafts movement has extended and progressed, artists and thinking artisans have begun to awaken to the truth of the doctrines of Ruskin and Morris, to believe in the arts of life, the "architectural", structural, or ornamental arts, and to place them on a plane no less high than that occupied and distinguished by the fine or "academic" arts. They have come to believe in the "intelligent producer" of other things than paintings and sculpture. In spite of this awakening, how rare is the artist-craftsman. He could not, of course, be expected in great numbers in a generation. His gift to make beautiful things well is more by special inspiration, an hereditary outcropping of something of the spirit of the old guilds, than the result of training. We have come to know our need of art in everyday life. We need it so much more than we need the $500,000 paintings for the art galleries. But we have so little artist-artisan material to supply this need all at once. There is no better way, indeed no other way, to supply it effectually and generally as a national thing than thru the training of public taste from the very foundations of education in the public schools. Educators recognize this, and in the very short career of manual training in the public schools have taken a great step forward. The arts and crafts

in the public school have given a more real, substantial meaning to handwork, and a greater appreciation of the beautiful. There cannot be what some call an "unnatural union between art and manual training." It is impossible to dissociate the idea of design from that of craftsmanship, or of craftsmanship from design. The designer and the craftsman, however, are too seldom one and the same person. This is the "unnatural" situation. Not only in the manufactures are the designer and the worker kept apart. Too often is this true of the handicrafts, mainly for economic reasons—the designer concentrating upon designs can thus make more designs; the artisan, uninterrupted by the necessity of making his own plans, can turn out more pieces of work. Neither is acquainted with the problems the other has to contend with, and both design and craftsmanship suffer thereby.

The ideal craftsman is he who works from his own designs, designs that represent his own thought and embrace every element of good quality which he desires to put into his work, with regard alike to material, use, form, and ornamentation. It is this sort of artist-craftsmanship that Morris and Ruskin sought to re-establish, and that their followers in the arts and crafts movement are striving to encourage. It is this sort of training that the arts and crafts of the public schools must give, not merely exercises in skillful construction, worked out blindly and unintelligently with no thought beyond the "making." The ideal combination is skill with the best of thought. Whether the thought be transferred to the work directly or not, the *thought is the design.* This mental design, bodied forth in a drawing, is already partly visualized. The drawing becomes a language that is more easily interpreted into workmanship, it is a bridge between thought and execution, bringing the work nearer to the thought, making each step surer, and the whole way clearer. "Every human creature," says Lethaby, "is in some sort a designer." Not all craftsmen, however, commit their designs first to drawing. But the thinking craftsman thinks the more clearly thru drawing. Ruskin says emphatically:

> Understand this clearly: You can teach a man to draw a straight line, and to cut one; to strike a curved line, and to carve it; and to copy and carve any number of given lines or forms, with admirable speed and perfect precision; and you find his work perfect of its kind; but if you ask him to think about any of these forms, to consider if he cannot find any better in his own head, he stops; his execution becomes hesitating; he thinks, and ten to one he thinks wrong; ten to one he makes a mistake in the first touch he gives to his work as a thinking being. But you have made a man of him for all that. He was only a machine before, an animated tool.

Drawing is an indispensable language of the craftsman in at least some stages of his work; it represents actualities, it represents things as they exist and cannot be separated from craftsmanship more consistently than thought can be.

Nor can pure design as such exist alone. It cannot be considered apart from that to which it is meant to be applied. Only a few years back, a drawing-class in a certain secondary school spent all the time allotted to

drawing in making designs—borders, centers, and the like, from conventionalized flower forms. But no one ever knew for what purpose or for what place these borders, corners, centers, and squares were to be used, nor to what material they were to be applied. They were exercises, they were not made to be used, they were not real. Later, elaborate designs for oilcloth, wallpaper, china, added a bit of interest to the exercises—for they were still exercises. They were meant for an imaginary something; no oilcloth, wallpaper, or china was ever destined to bear these designs. They were "useless as a painted ship upon a painted ocean." They had no relation to the things of life, and the teacher in his enthusiasm in teaching *design* failed utterly to teach *applied design.*

Education is today so much more a part of the life of the child that there is nothing he does in school that is not related to his life. From the lowest grades his schoolroom activities reflect the needs and the capabilities of the child mind, and are constantly leading him into a new world of ideas and activities. He tells his fairy stories in pictorial form with the pencil or with the brush and colors; with scissors and paper he makes silhouettes of the most characteristic groups in the nursery rhymes—learning thru these activities outline, composition, tone, and color. He models in clay, and thru its plastic obedience to his thought, learns much of form; he folds paper to line from given directions and thus takes his first lesson in interpreting a mechanical drawing; he constructs paper and cardboard boxes and solids from geometrical drawings made by himself from given directions, and learns the necessity for accuracy in making and translating mechanical drawings; from a solid block of wood he cuts a glove-mender and learns how to make tools and materials respond to the language of the working-drawing. All the while he has been acquainting himself with this language which is helping to bring "thinking" and "doing" into harmony with each other. And while he has been learning the "how" he has been learning the "why." While he has been learning to make things well, he has been learning to make them in good design, of comfortable proportion, on consistent lines, of suitable material, and to decorate when advisable in an approved way. He has been further enriching his experience in "thinking" and "doing" thru work in brass and copper, silver and iron, in wood-carving, block-printing, stenciling, basketry, weaving, bookbinding, pottery—drawing always the general plan of construction, either in outline with the pencil, or in mass, or in space-arrangements with the brush, ornamenting where ornament will add interest and emphasize form, but not confuse and weaken, never losing sight of suitability of design to the material, to the tools, to the method of workmanship, or to the uses to which the finished product is to be dedicated. In original problems all along the line he has been given abundant opportunity for the play of the creative instinct, for invention, for individuality, and imagination, all within bounds regulated by the recognized laws of design, seeking to produce artistic quality as well as good construction.

Thru the whole process there has been scarcely a step where he has not needed to use something of mechanical drawing or pictorial drawing, a certain degree of accuracy in both construction and decoration. This accuracy has not been the only quality striven for, and it has helped, not hampered the freedom of both design and construction; the "be-sure-you're-right,-then-go-ahead" quality. He has had to keep before him the entire design as a unit comprising the mass or form of the object together with its proposed decorations. The laws of design have kept him well down to the structural plan laid out in the drawings he has made. In the drawings his imagination has been given direction and has been kept from running riot in over-ornamentation, or the merely "unique" that is so often mistaken for originality. He has had to recognize the limitations as well as the possibilities of design, he has had to keep true to tones and values and fitness, to adapt his drawings with a view to the uses of the completed object, and to the materials and tools employed in making it. And if in the work of construction or decoration he finds he can improve on the drawing—so much the better. He is learning to judge and to criticize, learning right values, learning to think ahead.

No hard-and-fast line of demarcation has been made in his mind between representative drawing and decorative drawing. He uses each as it best serves his purpose and best expresses his idea. He has shown that drawing is the very bone and sinew of the arts and crafts, that the arts and crafts are after all but a vehicle for applied design. Thru drawing he has learned to think constructively, to think connectedly, and to achieve definite and connected results. He has learned that art is not something to which craft is somewhat inferior, but that they are one and the same thing; and this both the greatest designers and craftsmen, and the greatest painters, sculptors, and architects today agree upon.

The experiment to teach the crafts without a knowledge of drawing—either mechanical or freehand—has been tried. But "experience," as Henry James says, "has a way of boiling over and giving us an opportunity to correct our methods." Experience in a normal college has taught that an attempt to go into any branch of manual arts before some training has been given in interpreting and making drawings, results in confusion, indecision, and ultimate defeat in the work. A trial of training in simple problems in paper-folding and cardboard and the drawing-problems these involve, to those students who had never before had any training in drawing or any branch of the manual arts, immediately proved the saneness of the method. The students found themselves, and from having floundered helplessly about in one craft or another, came to work systematically and intelligently and joyously when they understood drawings and how to make them for themselves.

Let me further illustrate this unquestionable value of drawing in its relation to the arts and crafts by citing the case of a class of untrained

adults who wished to take a few lessons in brasswork. The only specimens they had ever seen were specimens of very inferior craftsmanship. But these grown-ups did not consider them so and thought they would be content to make something half as good. They rather fretted under the drawing and pattern-making that the teacher insisted upon for both construction and decoration and were impatient to get on to the "making." When the first pieces—fern-dishes—were completed, carefully soldered and zinc lined, they proved to be quite satisfactory models of workmanship and design. Coming again upon the original fern-dish which had inspired emulation, one of the students not habitually given to deep thought, looked upon its poor design, and poorer workmanship, with the simple but expressive remark—"Well, you certainly do see more when you do things." And so say the psychologists. Drawing in the arts and crafts is but "seeing" *before* "doing."

It may be unnatural or unwise to expect drawing with any idea to construction from young children, but as the child learns to express his ideas in material form—and this he does very early—drawing may be correlated in the simplest manner possible with construction. Later when he needs to work out his own ideas from plans he has drawn he will already quite unconsciously have learned to visualize his design applied. If he must live thru the history of the race he will want first to make unintelligible scrawls, then symbols, then pictures, and then plans or designs to be applied.

We cannot today get away from the relation of the public school to the life of the community. It is no longer a matter for pedagogists and school boards alone to decide; the people are insisting upon it, as the activity of the Association for the Promotion of Industrial Education has abundantly testified in the past few years.

Arts and crafts in the public school have opportunity for a wider influence than almost any other work in the schools. Yet even in their highest flights of fancy it has never been the hope of teachers of the arts and crafts to make artists or craftsmen of even a small proportion of their pupils; should the pupil's inclination take him into any field of art, whether the fine arts or the architectural arts, he will be all the better prepared by reason of his training in the schools. But what is far more vital to the people than the work of an individual painter, sculptor, designer, or craftsman, is the influence and training that make for better taste in individuals regarding things made, things bought, things used. As the individual, so the mass.

Ninety-six per cent. of all working-people are employed in the industries. In the school the child meets the same sort of drawing and construction problems that confront the furniture-maker, the silversmith, the carpet-maker, and yet it would be folly to believe that these trained children from the public schools can, on growing up and going into the industries, make any appreciable impression upon the character or the quality of manufac-

tures. They do not go into the industries as factors but rather as a part of the machinery.

However, they will have acquired a sense of good form, of good design, and a love of beauty that will eventually insist upon being satisfied. Industrial conditions are too large, too mighty, too well organized, too universal, too permanent, too progressive, to turn aside for the boy and girl of the public school. What the boy and girl can do is to grow up to demand better products of the manufacturer by refusing what is unsatisfactory, to force him to make furniture, carpets, wall-papers, chandeliers, china, in better design and coloring and at less cost, so that their homes may be more beautiful, that objects of everyday use may be made on good lines, without over-ornamentation—in a word—in general good taste.

Then shall we see the passing of the tortured curves in furniture, grotesques and arabesques in wall-papers, the realistic red roses scattered carelessly over the emerald green carpet, "fashionable" headgear and gowns, the bespouted and behandled bric-a-brac of impossible color and decoration and dust-harboring kinks and twists.

People of even small means may then surround themselves with necessary furnishings of dignified and quiet lines, and in the home, at least, there will be a chance to get away from some of the restlessness of the age, some of its ugliness. (Perhaps, indeed, some of this restlessness is due to too constant and too long association with ugliness.) By their persistent demand for wares in good taste they can compel manufacturers to produce more tasteful wares. It is a slow process; it looks almost hopeless in view of the disproportionate power of the industries both financially and executively. But truth is mighty.

People of moderate means can begin in their own homes to harden their hearts to some of the monstrosities cherished too long, and, not as in other days, take the offending piece from parlor to sitting-room, then upstairs, then out, but *out* at once; not give it away, that is not helping the cause. They can bring themselves "to burn the things they once loved, and love the things they once burned." They can make a bonfire, with a celebration, of the mustard-plaster oak sideboard with the grillwork and the mirrors everywhere, and make a plain one of handsomely grained wood stained and polished, or they can bring down from the attic and restore to its place the old mahogany or walnut sideboard with the strong, simple, graceful lines and satisfying proportions. They can refuse to live with ugliness, and the manufacturer will come 'round.

The manufacturer is making his millions producing for others articles he himself would disdain to use in his own home. With a public whose taste refused this ugliness the manufacturer would in time have no alternative but to get in line and exercise good taste in the production of what the public purchases. This is not too sweeping a statement, not too hopeful a view, but its realization will not happen tomorrow. When it does

gradually come the general improvement in taste and appreciation of beauty will react upon civic conditions and cannot help but have a bearing upon national greatness, a national art, and give us the place we ought to have in the progress of civilization.

THE VOCATIONAL VALUE OF THE HOUSEHOLD ARTS

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1. The title of this paper might better read, "How may the Household Arts Have True Vocational Value?" For while at first sight it would seem that the household arts must have vocational value, we may well pause to consider whether the presentation of the subject is such that this end is attained. A subject to be vocational must always have the practical end in view. The aim of the practical work is a controlling element in the selection of subject-matter. Courses in household arts as we find them in the schools would seem to form a part of the general education rather than to serve as training for any specific end. The household arts, to be truly vocational, must give thoro training for home-keeping; or must thoroly train the girl to earn her livelihood. The average course of study is too incomplete to accomplish this purpose. More time should be allotted and the courses better organized within the given time. The word "vocational" is used in a twofold sense in connection with the household arts. The keen interest now awakened for industrial education must not blind us to the fact that in the vocation of home-making lies the full significance of our subject. This, then, is the first meaning of the word. When, however, certain of the household arts are used for trade or business purposes, we have the second interpretation of the word vocational.

2. *Training for Home-keeping.*—The term vocational always implies the practical end—some actual achievement. The power to do something well is always involved. So, in the vocation of home-making, practical efficiency, skill in the arts themselves, is an absolute necessity. But more than this is required. We must develop a well-organized group of ideas which shall include knowledge essential to the modern house-keeper. Even in the upper elementary school it is possible to a greater extent than we have yet realized, and our high-school courses seem thin and weak in view of what we yet have to do.

A wide range of topics is necessary for this purpose if we keep in view the knowledge that is necessary nowadays for the house-keeper. The subject of foods and cookery, so prominent in all our courses, is important, but is only one element in the situation. This topic, too, is on the whole too restricted, where nothing more is taught than the food principles, the effect of heat upon them, serving, and so on; for the selection of wholesome food has become a science and an art. What matters it how well a house-keeper

may cook a turkey if she does not know the difference between an edible fowl and one that has been several years in cold storage? Poultry of this description was sold by the dozens in a department store of New York last Thanksgiving, which would seem to prove that such knowledge as this is not common. We must in our household-arts courses give accurate and attested facts in regard to food sanitation (which would include state and city sanitation), sanitary-inspection laws, the condition of cold storage and markets. The papers for years have been full of facts in regard to the necessity for pure-food laws including both sanitation and adulterations; yet what are we teaching in our elementary and high schools? Are we teaching our pupils, for instance, not to buy jam made from turnip-pulp colored and flavored with aniline products and mixed with hayseed?

The question of sanitation, moreover, touches the field of textiles, where manufacturing conditions in our great cities are positively revolting. What do we actually teach about sweat-shop work and the prices that must be paid for clothing made under decent conditions? The entire sanitary condition is treated on the whole rather as a side issue. We have health associations, a proposed National Department of Health; we fight tuberculosis, we talk about stamping out typhoid fever; and yet a state board of education has just refused to include a course in sanitation in its syllabus. Who needs to know, more than the elementary-school or high-school girl who will pass from the school to the shop, the fundamental decencies of life?

In this vocational work of household arts we must hold steadily before the public and the educators the full scope and content of this subject. No course in household arts can truly train the home-keeper that does not include sanitation, and the hygiene of the individual, including nutrition, as well as all practical aspects of the subject.

Economics and the cost of living form another neglected topic, treated incidentally rather than fundamentally.

Yet again, while the papers are full of this topic, and a Congressional Committee has been investigating this question, what is done in the schools that would give vital aid in the solution of the problem of the cost of living?

The home-keeping course must always have practical work, but this must be given in relation to the larger whole, if any worthy result is to follow.

This practical work itself needs sifting out and rearranging. We need to find more short cuts, to select type forms, so that the pupils may not have a series of isolated and disconnected processes. We must, in some way, plan for more repetition—the doing of fewer things, doing them oftener, and thus doing them better. It is some weakness here that arouses such a question in the public mind as this—"What is the use of cookery in the public school?"

3. *Training for a Livelihood.*—Here a word must be spoken in behalf of courses that train for a livelihood. In some quarters there would seem to be an explanatory or apologetic attitude for work of this nature; yet in a world

where a girl is forced to support herself, because no one else can, should we not rejoice in being able to open new means of self-support in work which will be pleasureable as well as remunerative; which will not degrade her womanhood or dissipate her physical energies? Happy it is for the household arts that they can do this; that certain of the household arts have become industrial, without taking on the worst features of industrialism; and that even in the school we may so train a girl that she quickly rises to better positions in her field of labor.

Here the textile subjects have the advantage, since trade dressmaking, millinery, and design offer a field for the young worker, and already we see results in such trade-training.

In the food and hygiene fields we are yet experimenting, but as assistants in institutional management, as lunch-room helper, or caterer, openings are coming for the younger women.

Every woman should be alive to the aspects of home-keeping as already described, but in the course that trains for a livelihood the general aspect must be given in a brief survey course. For financial purposes there must be skill in a somewhat narrow field. This means a large amount of practical work and much repetition under conditions as much like those of a trade or business as is possible. Facility and rapid execution are necessary in any line. This certainly holds good in the textile field, where dressmaking, millinery, and design are taught for trade purposes, and is true also in training for catering or lunchroom management or anything that has to do with the food question. Our trade schools and technical schools are already organizing their work with these facts in view. The outlook here is truly encouraging.

4. In both cases—vocational training for the home and for a livelihood —a scientific basis is absolutely essential. This is clearly understood in all other practical vocations at the present time. The manufacturer employs a chemist in order to make his business pay, yet this same manufacturer, if he happens to be a member of a school board, will object to the inclusion of the chemistry of foods in a household-arts course because he is afraid it is not practical. If a course in dietaries is presented to a school board for adoption, it is possibly rejected with the statement that the girls need something that they can use at home. Why is there such a curious lack of logic when the mind applies itself to the question of home-keeping? In agriculture, a practical art the most nearly parallel to house-keeping, what strides have already been made in restoring the worn-out soil and increasing the income of the farmer! The young farmer goes to the winter course in scientific agriculture. Happily his sisters are finding something that they need in the winter courses in home economics. Yet still the teacher who believes that sound science is necessary to sound practice in cookery meets a murmur of dissent. There is a prevailing fear in the minds of men and women that home work cannot be practical if time is taken to

establish foundation principles thru scientific experiments. We can lay the ghost of the old-time cook, who knew no chemistry and never measured anything, only by demonstrating practically that in these days the best practical results are inseparably connected with scientific principles established in the chemist's laboratory. Here the household-arts teacher must have the co-operation of the teachers of the natural sciences. The present ferment in this line of teaching will ultimately work for good to all concerned if the pure-science and applied-science teachers will work together. We shall probably obtain best results in connecting theory and practice in the classroom in proceeding from the concrete to the theoretic. This would be true anyway in work for trade purposes, where there may be little time for foundation courses in science. Here, certainly, we may safely follow the advice of Aristotle—to do the thing first, and find the reason afterward. In the textile field principles of art are as essential as are chemistry, physics, and biology in the other fields.

5. *Classroom methods.*—For home training, conditions are fairly satisfactory already, yet much has still to be done in developing a better method, especially in this development of the general relation of things, the connection of theory and practice. In teaching methods for trade purposes we must be on our guard that confusion does not arise between the apprentice methods and the schoolroom method. We must make the class copy trade conditions as much as possible. This is possible only to a degree. The apprentice system requires much time. The method is individual. The learner is given one thing to do, passes on to another, and covers the whole field by slow degrees. Again the learner gets detail, but does not develop a working principle unless she has a keen mind and rises to the top. In the schoolroom, time is limited. The program is hard and fast, and short cuts must be devised. The pupil must get her working basis and her practical methods as rapidly as possible. There must be class demonstration, class discussion, and notebook work, and in this way the establishment of principles to be worked out by the individuals. We need to devise some happy mean between the slow apprentice system and a class method so rapid that nothing practical results.

6. *Qualifications of the teacher.*—Here lies one of our greatest difficulties. For both home work and trade work the teacher should have scientific training, a practical experience in business, either home work or trade work, and a knowledge of teaching. Teachers from our training schools lack business experience and the short cuts of the trade or practical house-keeping methods, unless there has been experience outside of the training school. On the other hand, a woman from a dressmaker's shop or a practical housekeeper wastes time in the classroom because she again does not understand the short cuts of the trade of teaching, and her knowledge is not organized. If such a woman is a born teacher, matters go fairly well. If not, she is apt to carry the slower method of the shop into the classroom; the pupils

are confused by detail and are not helped to organize their material. Whether it would be better to put a trained teacher into a shop or lunch-room, or a woman with practical experience into a training school is an open question, and so, as always, we turn to the ideal teacher as the only solution of the problem before us. The household arts will not have their full vocational value until the teacher has a scientific foundation, practical efficiency, and good teaching method, and is heartily supported by the school boards of the land.

THE SCIENTIFIC DEPARTMENT OF THE SECONDARY SCHOOLS AND ITS RELATIONSHIP TO THE HOUSEHOLD ARTS

IRENE ELIZABETH MCDERMOTT, DIRECTOR HOUSEHOLD ARTS, ALLEGHENY HIGH SCHOOL, PITTSBURGH, PA.

(*Abridged*)

Someone has said that the Romans conquered the world because they were the only people who did not have to spend time endeavoring to learn Latin.

The wise man who said this must have surely been a prophet, and foreseen the evil days which have dawned upon us, so far as concerns the forced, formal, and oftentimes unwise study of this and other subjects which have been in the limelight of public favor for centuries.

Science, shrouded as it was by mystery for the ordinary mind, vouched for by those who were termed heathen, pagans, and infidels, was derided and treated with contempt by the priests who handed the omens down to the Early, Dark, and Middle ages of modern civilization.

It requires years to live down even foolish superstitions and traditions; consequently even in this day and age there are teachers who still insist that the higher education should be for what they call culture and that science has no part and parcel in such company. As a means to an end, in the bread-and-butter question, the most progressive of these people are willing to admit that science may be endured in schools set off by themselves, and labelled, after the manner in which the modern quarantine officer might placard a house which lodged an undesirable disease germ.

There was a time when we endeavored to teach science in our high schools, as we have taught and are teaching many other subjects, bound fast with the fetters of pedagogic forging. The teachers did much talking, demonstrating with some experiments, suitable for college work, and the textbooks tried to do more talking, sometimes of that quiet, soothing sort which enables one to go to sleep. Perhaps the young student did *some* thinking, but found it possible not to acquire much wisdom on the subject, either qualitative or quantitative.

The household-arts department is fitting the young woman to take her rightful place in the world's activities. In her social relationship as

daughter, wife, mother, or her economic relationship as the individual unit or citizen in society at large, she must be fitted to discharge her functional activity for the wants and needs of her race.

In the formal study of science, even in elementary stages, an opportunity is afforded for observation and conclusion. Concentrating these inferences on some concrete form of practical application enhances the acquired knowledge into wisdom, which is knowledge plus the power to make use of it.

We must consider the function of women in our social and economic life. Her position varies with time and country. Primitive woman was the executive part of the home. In many cases she was the owner of the household (not after the manner of present-day forced commercial assignments). She was also held responsible for the fruits of the soil, with no granaries of Egypt to help her out in times of famine. In those days man's chief occupation was not what we term menial work. His time was required for war and hunting. Women and slaves carried on the occupations connected with the home and peace.

Food and clothing were the first natural wants of man. These natural wants might be associated in an order of sequence, as follows: The natural wants being associated with the physical functions, the material needs, the social instincts, intellectual activity, the love and appreciation of the beautiful, and the demands of conscience.

If we are to make the study of science practical and valuable in our present school system, it will be necessary to eliminate many things which are now there.

The difference between an educated person and one who is not eligible for such a classification is the ability which the former should have for placing a real value on the essentials and non-essentials of life's complex make-up.

Assuming that those who are responsible for our educational institutions are able to make this discrimination, we may hope to see the time when science is no longer obliged to waive its rightful place in the high-school curriculum. There are many changes which must be made before this subject is placed in its proper relationship with other subjects.

Today many brave teachers are eliminating what in days past were considered absolute essentials, to this end, even where such ejections become a martyrdom of cherished ideals.

The mind expresses itself in four ways: first, by language, spoken or written; second, by gesture or motion; third, by reproducing the thought by means of drawing or painting; and fourth, by construction in a material sense.

In all these forms of expression, with the exception of the spoken language, the hand must be the factor to serve the mind. The eye, the ear, and the tongue all serve in acquiring and expressing, but the hand should

be a factor worth reckoning with as an instrument of acquisition and expression.

If sitting on a log in the wilderness with a great teacher occupying the other end of the same log constitutes a university, as someone has said, then the faithful study of science would give a liberal education, including fair treatment for the hand. We need this good, common-sense education which concerns itself with the nature of the human body and mind, together with the great natural forces governing the world in which we live, move, and have our being.

Well-directed effort is a basic quality in science teaching. We are told that the basis of all habit and character must be well-directed effort. Dreams and ideals may for a time lift and lure, but self-directed effort alone is able to sustain until the activity forms itself into a reality.

Science to become correlated and related to the household arts would have to concern itself with the factors used as a material medium, in the practicing of these arts, the producers, and the finished product. To fill these requirements, the science department would be called upon to give elementary biology (vegetable and animal which might include agriculture), chemistry, physics, together with some structural and functional physiology and household bacteriology, all of these subjects based on the human interests rather than mere scientific development. To get the best results, it is necessary to differentiate in high schools having both boys and girls in the classes. However, much care must be taken that this modification is not carried on to excess. There are basic principles which must be learned. In the modification we bear in mind that a woman's place is the home and administering to the natural needs of the race. Thus her application of science would be along activities connected with her own special work. On the other hand, the duties of a citizen should make it desirable for the woman citizen or the man citizen to rightfully administer to the comfort and well-being of the community, which would be a collection of homes. Thus it will be seen that the individual application and the community application are related.

It would not be wise for a girl to spend undue time on the mechanics of physics, in the high-school period, when she might be getting knowledge which would mean more to her, when used under the guidance of a good teacher, or necessity.

In most cases it is advisable for the director of the household-arts department to recommend an outline for the science work. This may be fully amplified by the science teacher. For helpful application of laboratory science in the cooking and sewing laboratories, certain fundamental topics must be developed, as they are profitable to our everyday occupations. This help from the study of science changes what otherwise might be prosaic or commonplace operations into experiences of scientific interest and value.

Nor is it only the practical life that is served. Under the guidance of a teacher the girl is taught to regard the work of nature in its truest sense. The very food which she has always accepted as existing only for food, takes on an added interest. The starch in the potatoes and other vegetables is no longer merely food for the animal life alone, but has been manufactured by nature to afford nourishment to the young, struggling germ, which is to continue its kind for future generations. The perfume and color of the flowers were not made for her beauty-loving nature alone, but to serve in the great economic plan of nature, that the pollen may be transplanted to other plants that they might be more fruitful. The lusciousness and attractive color and flavor of the fruit were made that its seed might be scattered over the earth. The silk of the ear of corn, the waving tassel of the towering stalk, the golden dust of the dandelion, the activity of the bee—all these things become living books to the girl who has had her eyes opened in a sane, practical, and progressive science course. The work should be placed on the right grade for the age of the average girl, and to be comprehended by the average girl, remembering that the law of science is the law of the average.

The mere memorizing of formal lessons could never bring forth such an upliftment. The mere preaching of a formal moralist could never hope to attain such freedom from what we term selfish human nature.

It surely requires a knowledge of elementary science to appreciate intelligently why two light-weight garments afford more warmth to the wearer than one heavy garment;

Why light-colored garments are worn in warm climates, and during our own summer time.

Why one large window admits more light than the same window-surface divided into two or more smaller surfaces.

Why gas escapes when the valve is open.

Why ice-cream freezes when the ice melts.

Why cream rises to the top of milk.

Why water is sometimes added to skim milk to make the correct specific gravity.

The reason for quickly searing the surface of meat, or in other cases soaking the meat in cold water.

The reason for cooking some vegetables in a small quantity of water, and using an abundance of water for others.

The reason we allow yeast mixtures to stand, in order that they may become light before placing them in the oven, while baking-powder mixtures are baked at once.

Why eggs are more easily digested when cooked at a low temperature.

Why we are able to settle coffee with cold water. On the other hand how we are able to clarify coffee by using the white of an egg, or soup by the white of an egg, or a little finely chopped raw meat.

The state of New Jersey has set an example which other states might emulate with profit. A summer school now in session at Cape May gives every New Jersey teacher an opportunity for acquiring a knowledge of elementary science governing the everyday activities. Here, under the

leadership of the Hon. T. D. Sensor, who has given freely of his means and time, and the best of his own noble nature, the students of this school are being fitted to carry acquired knowledge and well-earned wisdom to many schools which have been groping in the dark.

The papers and magazines published thruout our country have given Pittsburgh her rightful share in the "shame of the cities," but few have cited the gift of the unknown donor who has made it possible for one hundred and fifty teachers to be sent away each year, that they might get in touch with the truth which modern science is giving, under the guidance and direction of our great universities.

DISCUSSION

Mrs. Ellen H. Richards, Massachusetts Institute of Technology, Boston, Mass.— An idea takes about twenty years to sprout, so as we grow old we give up the hope of seeing results and just go on sowing. I have dug up for you an idea that is fourteen years old, but it is showing signs of life. In 1898 some of us here in Boston petitioned the Board of Education to start a high school for us. This was started three years ago. At the time we first planned for it we made out this schedule, which you may be interested to study. We provided for English because it expresses ideas in language, history and civics, as preparation for citizenship, mathematics for accuracy and as a tool, drawing as an expression of ideas in art and decoration, science for moral and mental development of the individual, handwork to develop power of execution, and gymnastic work for the physical welfare. If the high school is the people's college, the sciences given should affect the life and moral and intellectual development as well as the mere technical efficiency.

Laura A. Cauble, Margaret Morris on Carnegie School for Women, Pittsburgh, Pa.— The extension of the elementary-school courses in cooking and sewing into the high-school department of household arts is a response to the demand for an education for women which shall function in their lives.

The essential demands on a woman's life are to make and conserve the home; to care for children; to relieve the suffering and helpless; to make the world a little better and saner place to live in because there are women in it. I shall not attempt to discuss the relation to vocational life as that has been covered in another paper.

In the Department of Household Arts we organize our means and resources and shape them with definiteness and economy in the direction in which life calls us to move.

We study the home, its construction, its cost, its care, its function; the child, its care, its nutrition, its growth; the family dietary in sickness and in health; the school lunch and institutional problems; we observe the growing demand upon women's interest and influence in municipal affairs; the necessity for knowledge of sanitary science; the composition and the care of food in the home and in the markets; the water supply; the milk supply; the sanitation of streets, public buildings and conveyances; public-health measures and movements for social prophylaxis. The question of the production, the manufacture, and the adulteration of foods and textiles must be investigated.

Every art is a final expression of life thru the basis of some fundamental activity which at a certain stage of its development becomes a science. The change in the terminology of our department from Domestic Science to Household Arts is a conscious expression of the broader viewpoint. We can have no household arts without the fundamental principles of the underlying sciences taught practically and from the viewpoint of a woman's experience. This may necessitate some changes in the preparation and method

as well as the subject-matter of the teachers of science. The most pertinent criticism of science teaching came from the science teachers themselves at yesterday's meeting. They recognized that the large percentage of loss in attendance and interest in science courses in the high school is due to the lack of correlation of their work to human problems. It is not enough now, as it may have been in the past, to focus the sciences on industrial, commercial, and cultural ends. There must also be the social end to meet the demands of aroused public consciousness.

Physics, perhaps the most formalized science, may be related to the industries and to the processes of nature. The problem of the fireless cooker, the ice-cream freezer, the furnace and hot-water heater may arouse the interest and conserve the energy of the future administrators of the home or of public utilities.

Chemistry has more to do with the materials and processes of our changing industrial life, and must be taught as practical commercial and household chemistry. If manufactured foods meet every requirement of physiological chemistry at a lower cost, let us know it. It becomes a means of regulating and controlling a woman's experience in the home. Elementary biology leads the student from individualistic thought of her own life to the unity of creation and her relation to it.

The study of micro-organisms gives her knowledge and power to safeguard her home. A test in bacteriology in a New York high school consisted in cultures made from the dust of the window ledge and floor, from the common towel, the hands after they were washed and wiped on a clean towel, and from a hair out of each girl's head. The later discarding of disfiguring and unsanitary head-dress was effected without effort of the teacher.

The conservation of resources, birds, mammals, fish, crustacea are related to the typical industries and laws governing them. The useful and harmful insects are studied as related to our orchards and work of the Department of Agriculture. The care in breeding animals on the farm and its economic aspect should be taken up, since more and more women's interests are turning to this economic end.

More difficult than these demands is the one now so insistent in the social consciousness, the need of better teaching of human physiology and hygiene. The ethics of the medical profession, the unpreparedness of most parents, and the cut-and-dried methods of most teachers have left this subject practically untouched. Let us have structural and functional physiology and hygiene taught separately to the sexes. The economic need of the world for strong races and for better health has incited discussions on eugenics; a study of infant mortality, blindness, infection and immunity, and social prophylaxis have inspired a work on euthenics. It is time to see the subject "sanely and to see it whole." The principles underlying heredity and reproduction come from teaching biology. The hygiene of sex, the appreciation of health and vigor and the conditions for their preservation must also be given. The opportunities for physical education and the motor character of the fundamental forms of social activity involved in much of the work in household arts safeguard the girl and make for chastity of thought and action.

There is one other science we now demand for women, the last to be studied as an exact science—the science of human wants. In our college days we studied it from the standpoint of man's needs and uses—economics or political economy, the science of wealth or value. A little later with a more humanized view it became the inquiry into poverty! With our changed social order it becomes the science of human wants. Woman's relation to production and consumption and her economic function must be studied. Her work in the home must receive its value in production and her labor thus be dignified.

Will not our teachers of history co-operate with us to develop for the girl a knowledge of the essential conditions of industrial and social prosperity and her relation to them? If she is more largely the consumer than formerly, let her know the cost of production.

If there needs to be a wiser production and a more economic consumption, a more careful distribution of income, shall the woman as chief consumer attempt her problem by intuition? The work of the world is not done by woman but thru woman. Shall the woman of the future be equal to her work?

REPORT OF THE COMMITTEE ON THE PLACE OF INDUSTRIES IN PUBLIC EDUCATION

To The Board of Directors, National Education Association:

The undersigned Committee on the Place of Industries in Public Education, appointed at the meeting of the Board of Directors at Los Angeles, Cal., July 11, 1907, has the honor to submit the following report.

The report proper is preceded by an historical statement as to the organization of the committee by the secretary, an introduction written by the chairman, and by the three following papers:

"The Industrial Factor in Social Progress," by FRANK T. CARLTON, Professor of Economics and History, Albion College, Albion, Mich.

"The Industrial Factor in Education," by ERNEST N. HENDERSON, Professor of Psychology and Education, Adelphi College, Brooklyn, N.Y.

"History of Industrial Education in the United States," by the secretary, CHARLES R. RICHARDS, Director, Cooper Union, New York, N.Y.

At the end of the report is a selected bibliography prepared by Howard D. Brundage and the secretary.

JESSE D. BURKS, *Chairman*
CHARLES R. RICHARDS, *Secretary*
EDGAR S. BARNEY
HOWARD D. BRUNDAGE
FLORA J. COOKE
ARTHUR D. DEAN
WILLIAM H. ELSON
CARLETON B. GIBSON
CALVIN N. KENDALL
ERNEST B. KENT
CHARLES H. KEYES
E. EUPHROSYNE LANGLEY
FRANK M. LEAVITT
GEORGE A. MERRILL
CHARLES H. MORSE
CARROLL G. PEARSE
DAVID S. SNEDDEN
CHARLES F. WARNER

HISTORICAL STATEMENT

At the meeting of the Board of Directors of the National Education Association on July 12, 1907, in Los Angeles, Cal., the following resolutions were communicated to the Board of Directors by Mr. Frank M. Leavitt, president of the Department of Manual Training:

REPORT OF COMMITTEE ON RESOLUTIONS OF THE MANUAL-TRAINING DEPARTMENT OF THE NATIONAL EDUCATION ASSOCIATION NOW IN SESSION, JULY 11, 1907

WHEREAS, The accumulative work of the department during the last two years seeking a more rational statement of courses of manual training, seems now to indicate a necessity for some definite work by a special committee;

Be it therefore resolved, That the manual-training department of the National Education Association, now in session, recommend the appointment of a committee for the

purpose of collecting data of the manual-training work done thruout this country, that suggestive courses adaptable to various conditions found therein, may be formulated by them.

Further be it resolved, That this committee consist of three persons now actively engaged in manual training, with power to add to their number, a superintendent of schools, a teacher of art, a child's study specialist, a grade teacher, and a representative from such other departments as may be deemed advisable to increase the efficiency of their work.

Be it further resolved, That the aforesaid committee of three be appointed by the president of this department.

Be it further resolved, That this committee be appointed for a term of two years, being requested to make a preliminary report at the next meeting of this association.

Resolved, That a committee of one be appointed by the president of this department to make formal application to the Board of Directors of the Association for an appropriation to defray the expenses of the committee.

Respectfully submitted,

CHAS. M. MILLER, Los Angeles, Cal., *Chairman*
AUGUST AHRENS, Warrensburg, Mo.
ADA F. BLANCHARD, Los Angeles, Cal.
Committee on Resolutions

On motion, the application of the Department of Manual Training was received and approved and it was ordered that the desired committee be appointed by the president of the Department of Manual Training and that $500, or so much thereof as may be necessary, be appropriated for the expenses of that committee.

The committee was organized at the meeting of the Department of Superintendence at Washington, February, 1908, with the following membership as appointed:

JESSE D. BURKS, Director, Bureau of Municipal Research, Philadelphia, Pa., *Chairman.*

CHARLES R. RICHARDS, Director, Cooper Union, New York City, *Secretary.*

EDGAR S. BARNEY, Principal, Hebrew Technical School, New York City.

HOWARD D. BRUNDAGE, Teachers College, Columbia University, New York City.

CARLETON B. GIBSON, Superintendent of Schools, Columbus, Ga.

CHARLES H. KEYES, Supervisor of Schools, Hartford, Conn.

ELIZABETH EUPHROSYNE LANGLEY, School of Education, University of Chicago.

FRANK M. LEAVITT, Director of Drawing and Manual Training, Boston, Mass.

GEORGE A. MERRILL, Principal, California School of Mechanical Arts, San Francisco, Cal.

CHARLES H. MORSE, Secretary, Commission on Industrial Education, Mass.

CHARLES F. WARNER, Principal, Technical High School, Springfield, Mass.

It was decided at this time to increase the scope of the report to include a study of the entire question of the place of industries in public education and a plan for the arrangement of the report was adopted.

The committee made a report of progress at the Cleveland meeting of the National Education Association in July, 1908, and at this meeting the Board of Directors authorized the increase of the number of the committee to not less than fifteen and not more than twenty.

According to the terms of this authorization the following members were added to the committee:

Flora J. Cooke, Principal, Francis W. Parker School, Chicago, Ill.
Arthur D. Dean, Chief of Trades Division, New York State Education Department.
William H. Elson, Superintendent of Schools, Cleveland, Ohio.
Calvin N. Kendall, Superintendent of Schools, Indianapolis, Ind.
Ernest B. Kent, Director of Manual and Industrial Training, Jersey City, N.J.
Carroll G. Pearse, Superintendent of Schools, Milwaukee, Wis.
David S. Snedden, Commissioner of Education for Massachusetts, Boston, Mass.

The work of preparing the main body of the report has been done by three subcommittees, as follows:

THE PLACE OF INDUSTRIES IN THE ELEMENTARY SCHOOLS

Elizabeth Euphrosyne Langley, *Chairman* — Flora J. Cooke
Ernest B. Kent, *Secretary* — Calvin N. Kendall
Howard D. Brundage — Frank M. Leavitt

INTERMEDIATE INDUSTRIAL SCHOOLS

Carleton B. Gibson, *Chairman* — Edgar S. Barney
David S. Snedden, *Secretary* — Charles H. Morse
Carroll G. Pearse

INDUSTRIAL AND TECHNICAL EDUCATION IN THE SECONDARY SCHOOLS

Charles H. Keyes, *Chairman* — William H. Elson
Arthur D. Dean, *Secretary* — George A. Merrill
Charles F. Warner

The secretary of the general committee was ex officio a member of each of the subcommittees.

At the Denver meeting of the National Education Association the General Secretary of the Association was authorized by the Board of Directors to print and distribute an edition of the report sufficiently large to supply the active members of the Association.

Charles R. Richards, *Secretary*

INTRODUCTION

The manual-training "movement" and its successor, the present vigorous industrial-education propaganda, have exercised for more than a quarter of a century a dominant influence in the educational thought of the United States. The early arguments for manual training and the later arguments for industrial education have a singular and significant resemblance. More vital motive for school work, better adaptation of the curriculum to the needs of the rank and file, reduction of school "mortality," and promotion of national industrial efficiency—these are among the more urgent reasons that have been advanced, thruout the entire period, for a more adequate attention to "handwork" as a supplement to, or substitute for, the traditional "headwork" of the schools.

With the abandonment of the theory of "general training" based upon the so-called "faculty psychology" the arguments for manual activities in the school, while retaining much of their original form and phraseology, have been given more specific application than was at first thought necessary. Not motor training, but specific motor abilities; not accuracy, judgment, and honesty, but keener appreciation of some of the most significant industrial processes; not preparation for life—any life—but preparation for a specific kind of life is now urged by those who are leading in the present demand for industrial education.

Notwithstanding the obvious similarity and direct connection between the early and later attitudes toward handwork and industrial activities, there is, then, a most important distinction between the two points of view. The earlier movement emphasized abstract psychological values; the later places the emphasis upon concrete social values. This change in emphasis is, of course, but one aspect of the general trend of educational thought for the past generation.

The present report attempts to gather up and put into coherent and convenient form the results of these thirty-five years of thought and practice. If this service has been acceptably rendered, such reiteration of accepted theory as has characterized educational discussions for three decades, may be appreciably reduced during the next three decades. A larger proportion of the energy of educational leaders may then be devoted to working out in practice the theories that all accept; to testing both theory and practice by facts instead of by opinions; to measuring results by standards that make comparison possible and intelligible; and to reporting results so accurately and so clearly that school officers, students of education, and citizens anywhere may find it easy and profitable to read the story of educational achievement for every community that has a story to tell.

Readers of this report may be disappointed at the relatively small attention given to results as distinguished from opinions in the field of industrial education. For this relative emphasis there are several reasons.

In the first place, a similar disproportion has marked the actual development of manual training itself and, to a considerable extent, of industrial education as well. Opinions have been more plentiful than facts, and vastly more has been said than done. About one-half of the thirteen hundred city and town school "systems" in the United States, it is true, have introduced, somewhere in their curricula, various forms of constructive activity denominated handwork or manual training. In only one hundred and fifty of these cases, however, does the handwork extend thru all of the grades of the elementary schools, and in only about one hundred cases into the high schools. Of the six hundred school systems having manual training, three hundred give less than an hour a week to it; and only thirty-seven devote as much as half an hour a day to the subject.

In the field of elementary education, then, the continuous and at times

strenuous discussion of thirty years has not produced results commensurate with the importance attributed to manual training by its advocates. Notwithstanding much notable advance, due largely to the influence of manual training, toward a more intimate and vital connection between thinking and doing in the school, handwork in the school is still in the main abstract, isolated, impractical, and unsocial in character.

The industrial-education propaganda of the past decade has likewise, in a measure, failed to affect educational practice to the extent that public interest, professional and lay discussion, and legislative provisions might have justified one in expecting. There is doubtless a keener appreciation than ever before of the social need for industrial education; but there has been relatively little advance in the way of detailed working-out of curricula, organization, and procedure for industrial schools of various types. Within the last few years, however, the demand for industrial education has made itself felt even within the field commonly assumed heretofore to be the exclusive territory of elementary education; a few public intermediate schools and trades schools of a distinctly vocational type having come into being. The result of these experiments is being awaited with eager interest.

In the field of secondary education, there is even greater discrepancy between the promise of theory and the reality of practice. There are about one hundred and fifty schools of secondary grade in the country that are classified in the reports of the Commissioner of Education as manual and industrial training schools. Of this number, however, only one-half are reported as giving any attention to the manual arts. Thirty of these are public high schools; most of which devote from five to nine hours a week to manual, technical, and industrial instruction. Some give as little as four hours a week, and a very few as much as twelve hours a week; but fewer than half of them give as much as one-third of their time to such instruction. With two or three possible exceptions, none of these public high schools may be ranked as technical high schools according to the definition proposed in the present report—the distinctive industrial or vocational purpose being almost uniformly absent.

A second reason for the disproportionale attention given in this report to opinion, without an adequate body of supporting facts, is the difficulty of obtaining verified data from the records and reports that are available. Aside from bare statements concerning enrollment, attendance, and gross expenditure, but few records of actual achievement and few measures of efficiency can be obtained as a basis for exact study of the problems involved. Opinions are numerous but facts are few when one seeks to ascertain what are the elements and what the evidences of "industrial intelligence" of various types; when these evidences may be expected to appear in boys and girls; how natural aptitudes may best be discovered and fostered; how the industries are to be classified on the basis of mental and physical abilities required; what industries do and what do not lend themselves to effective treatment thru industrial education; or what is the probable cost of various forms of industrial

training. Authoritative answers to such questions are essential to a safe and orderly development of a program of industrial education. Actual experiment and practice, however, are so limited in extent, and descriptions of results so lacking in accuracy and detail, that any careful and comprehensive study of industrial education must very largely lay its own foundation.

Thorogoing scientific investigation of the problems of industrial education clearly ought to be made. Limitations of time, of financial resources, and possibly of imagination and vision, however, have not permitted the committee to ascertain, by original research, data necessary to a critical and constructive report that should be at once comprehensive and convincing.

The report is, nevertheless, both critical and constructive in its purpose and method. It looks forward to the further accumulation of facts, to constant comparison, and to progressive readjustment of thought and practice in the field that it attempts to survey. The report, it is hoped, will furnish many points upon which those who continue to explore this field may get their bearings. Even if some of these points prove to have been wrongly located, the report will have served a useful purpose if it leads more careful observers to verify its base lines and test its calculations.

The report, it will be noted, makes no pretense of considering all of the obvious relations of industry to public education. The household arts and agriculture, for example, are hardly more than mentioned, tho these are clearly among the most significant of all industries. Trades schools, evening continuation schools, and technical schools of college grade, likewise, are considered only so far as to show their place in a comprehensive scheme of industrial education; not at all in detail. The aim has been to state, with some completeness, a theory of the place of industries in public education; and to illustrate the specific application of such a theory to a certain type of school in each of the three fields of elementary, intermediate, and secondary education.

Briefly summarized, the results of the committee's work may be stated as follows:

1. Industry, as a controlling factor in social progress, has for education a fundamental and permanent significance.

2. Educational standards, applicable in an age of handicraft, presumably need radical change in the present day of complex and highly specialized industrial development.

3. The social aim of education and the psychological needs of childhood alike require that industrial (manual-constructive) activities form an important part of school occupations.

a) In the elementary school, such occupations are necessary to provide concreteness of motive and meaning; to insure positive and lasting results for instruction; and to bring about a vital relation between life within the school and life outside.

b) In intermediate schools, industrial occupations are an important element in the wide range of experience necessary for the proper testing of children's aptitudes as a basis for subsequent choice of specific pursuits either in vocations or in higher schools.

c) In secondary schools, industrial occupations properly furnish the central and dominant factor in the education of those pupils who make final choice of an industrial vocation. Vocational purpose is the distinguishing mark of the "technical" high school as distinct from the "Manual Training" high school.

4. The differences among children as to aptitudes, interests, economic resources, and prospective careers furnish the basis for a rational as opposed to a merely formal distinction between elementary, secondary, and higher education.

Later in the report, these three stages of education are clearly defined from this point of view. The proposed definitions are, of course, radically different from those that underlie prevailing usage. The constant introduction into current discussion of such terms as "intermediate" school, "upper grammar" grades, "lower high" schools, "junior" and "senior" colleges, is in itself evidence of a real need for readjusting both our educational concepts and our educational organization to conform more nearly to the facts of genetic psychology and social requirement. From this point of view, then, it is of the highest importance that attention be directed upon the differences in function which are more or less clearly recognized in all attempts to separate education into its several stages.

Notwithstanding some confusion in terminology, due to an attempt to follow prevailing usage so far as possible, the committee's report as a whole recognizes the distinctions proposed in the second chapter. According to these definitions, it will be noted, "intermediate" industrial schools, the college preparatory "high" school, the "manual training" school, and the non-technical "college" would all be classified as *secondary;* their common and primary purpose being to recognize and provide for *differences* among their pupils—bringing these differences clearly to light, and furnishing the basis for intelligent choice of careers. The "trades" school, the "technical high" school, the "professional" school, and the "university" would alike be classified as *higher* schools, their common function being to provide special training for persons who have advanced to the point of making definite choice of careers and who are qualified to undertake the requisite specialized training.

While it is not expected that the proposed distinctions will modify established terminology in any radical way, it is submitted that a scheme of education based upon some such concept of function is absolutely essential to that "equality of opportunity" which educational leaders have so enthusiastically assumed to be the foundation of democracy. In our devotion to equality of opportunity as an abstraction, we have long denied to our children the reality of opportunity as measured by varying needs, tastes, and abilities. In our very worthy insistence that every individual should find an open door to any distinction that may be within his reach, we have held on persistently to a system of education originally adapted to the requirements of the "learned" professions, and are just now finding that such a system is poorly adapted to the development of leaders in commercial, agricultural, domestic, and industrial pursuits.

The present report assumes that a democratic community, by its very nature, must accept the obligation of providing every boy and girl with an educational opportunity that shall be not merely free, but enlightening; not merely compulsory, but compelling; not merely expansive, but vitalizing. A system of public education affording such opportunities is absolutely essential to the development of an intelligent, responsive, and efficient citizenship;

and this, in turn, furnishes the most secure, if not the only, guarantee of a permanent and triumphant democracy. It is with the purpose of clarifying this ideal and of hastening its realization that the committee submits its findings and constructive suggestions as to the place of industries in public education.

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THE INDUSTRIAL FACTOR IN SOCIAL PROGRESS

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Social progress is vitally and intimately connected with modifications in the methods of doing the world's work. As the means employed by the members of society in getting a living are improved, institutions, customs, and social conventions undergo radical changes. The advance of a primitive people from the hunting or the pastoral stage was accompanied by revolutionary changes in the home, industrial, military, and social life. The character, ideals, customs, beliefs, and training of the people suffer gradual, but important, transformation as an inevitable result of new work, discipline, and experience which exert silent, but constant, pressure upon each and every individual member of the primitive tribe or horde. In the agricultural stage constant migration is replaced by relative fixity of habitation. Personal property which was an impediment to a pastoral people becomes a desirable acquisition of the agriculturalist. The rude hut is built or improved. Property in land begins to emerge, and slavery arises. New ideals and customs characteristic of an agricultural people slowly displace those built up among the hunters or the herders. A multitude of social, political, military, commercial, and religious changes are the natural and inevitable results of the modifications in the industrial life of the people. The progress from slavery to serfdom and from serfdom to the modern wage system was preceded by changes in the density of population and in the industrial methods employed in the community.

Especially within the last century and a half the intimate relation between industrial evolution and social progress has been forced upon the attention of all students. The occidental peoples have been transformed. Rural life, isolation, the domestic system of industry, non-specialized work, are replaced by urban life, interdependence, the factory system, and minute subdivision of labor. The individuals and nations of the globe have been brought closely in touch with each other. The fighter has been displaced by the financier, status by contract, the isolated worker by the trade unionist, the partnership by the giant corporation, the local by the world market, the stage coach by the Pullman, and the sickle by the harvester. These kaleidoscopic changes in industry are distinctly and inevitably reflected into the home, social, and political life of the community. New laws, new governmental forms, modified relations between husband and wife and between children and parents, new

social imperatives, and new relations between different social classes are the visible fruits of industrial transformation. If one would gain an intelligent knowledge of the evolution of legal forms and ceremonies, political institutions, social conventions, educational ideals and methods, and religious and ethical concepts, industrial evolution must first be carefully investigated. Much of the current discussion of reform movements of various kinds is vitiated because adequate attention is not paid to the fundamental forces which are producing the visible social changes.

In the study of the political, social, educational, or ethical problems of today, two important facts, often neglected by the student who is unacquainted with the history of industrial evolution, must be given careful consideration. In the first instance, the social environment including the sum-total of influences which bear upon the life of the individual has been enlarged. People, intelligence, goods, now come from or go to distant parts of the earth quickly, regularly, and surely. The world of the twentieth century is one vast neighborhood; no dark, unknown continents remain upon the map. In the second place, specialization of industry has tended to confine the life and activity of the vast majority of workers of all grades within very narrow grooves. While modern methods of communication and transportation, world markets and the multiplicity of industrial products offer opportunities to broaden the mental horizon and tend to differentiate the demand of each individual for necessities, comforts, and luxuries, occupations have been specialized and subdivided until the life of the individual is cramped. Earlier forms of industry gave the worker a relatively broad outlook, and did not force him into a rigid routine. Our daily work and home environment usually tend under modern conditions to astigmatize our view at the time when democracy and world unity should thrive. This is the grim and forbidding paradox of modern industrial life.[1]

Human society presents a bewildering panorama of rapidly shifting scenes. Our problem is not to prevent industrial and social change, but to reduce the friction which necessarily accompanies it and to eliminate evils which are connected with it. To conserve the good and to minimize the evil is the double task of society. The factory system, for example, is an economical and labor-saving device; but it has certain undesirable features such as extreme specialization and the employment of young children. How can the system be preserved and the danger reduced to a minimum? is our problem. It is not: How can the system be abolished? The task is not the preservation of the old intact; but it is the adaptation of social, political, ethical, and educational ideals and methods to the unique conditions produced by industrial advance.

The meaning and scope of such terms as morality, law, justice, liberty, patriotism, and nation change with the world's progress. In like manner are the meaning and scope of education changed. There is no fixed and cosmopolitan definition for any one of these terms. Industrial organization quietly forces its peculiar impress upon each and all. In order to illustrate this point

[1] Carlton, *Education and Industrial Evolution*, pp. 47–48.

consideration will be given to the influence of industrial change upon educational evolution. Education in its broadest sense includes the totality of personal experience which forms the character and personality of a particular individual member of society. Education from this viewpoint is life, and is imparted in an informal way as well as in a formal manner. Education in the narrower and technical sense is the training which is given by a more or less definitely articulated mechanism usually denoted a school system. Or, in other words, it is training given in a formal manner. Human progress causes the transfer of certain forms of training from the informal to the formal group. Among primitive peoples education was entirely informal; but among modern people of the industrial type, the sphere of formal education has seriously encroached upon the old preserves of informal education. In the long eras preceding modern times, education was received in an informal manner from the father, the mother, and associates. The young were apprentices. In the Middle Ages and down to comparatively recent times formal education was for the privileged few, and was divorced from the ordinary activities of life. Even in the United States until recent decades, the functions of the school were not numerous; the chief work of educating the youth devolved upon the home, the shop, and the farm. Today the scene is changed. Slavery, feudalism, isolation, militarism, aristocracy, have been replaced by the wage system, crowded populations, co-operation, industrialism, democracy. The home shorn of its industry and its playground and the shop of its apprenticeship system, have been deprived of many educational functions. Formal school education has suddenly assumed a dignity and importance unknown to it in the past history of mankind.

During the last century industrial and scientific progress outran all other forms of development. An intricate problem of the modern sociologist is to bring our educational, legal, economic, and social values and ideals into harmonious relations with the present industrial situation. Legal, political, religious, or educational concepts formed when militarism was predominant are useless or worse than useless today. Concepts formed when modern industry was in its infancy, when it was still differentiated into small and isolated units, when standardization, specialization, and world markets were still of the future, do not square with the requirements of the modern integrated and interrelated industrial system. Sociology, political science, and scientific education must discard the old and accept the new in so far as progress makes such a change desirable. Time is, indeed, required to remodel educational, legal, political and ethical systems so that they will conform to the demands of a modern industrial society familiar with railways, telegraphs, giant corporations, and crowded cities. It is the primary function of an educational system to aid in this adjustment. After an era of extraordinary economic progress, the conflict between the inertial force of established institutions, customs, and legal dogmas, and the pressure of a new social and working environment becomes a most striking sociological phenomenon. The haphazard,

patched-up condition of the American school curriculum, the contradictory decisions of the courts of law, the widely differing codes of morality, and the dissimilar standards of artistic criticism of the present era are, in no small measure, due to the antagonism between traditional norms and standards which were conceived before the modern industrial era was ushered in, and those norms and standards which are being developed under the stern pressure of today's unique economic and social relationships. Both reformers and reactionists have been too prone to appeal to authority, class prejudice, superficial manifestations, and vociferous declamation. The resultant clamor and confusion have obscured the real situation, and have retarded the calm and deliberate investigation of social forces.

The proper function of an organized school system as well as of a political or a legal system, is one which constantly changes to fit the shifting social and industrial conditions of the country and of the epoch. Not only has the division of functions between formal and informal education changed, but the scope of formal education has been immeasurably broadened with the advancement of mankind from primitive to civilized modes of living, working, and associating. The work of formal education has been broadened not merely because of the growing intricacy and complexity of human life and industry, but also because the educational functions of other institutions such as the home, the shop, and the home playgrounds have diminished in importance. The school has been obliged to add duties which have hitherto been performed by other institutions. The home can no longer give youth adequate training in manual industry. The shop because of subdivided labor and speeded-up methods of modern industry offers inadequate opportunity for the young apprentice. Society must adjust itself to a more crowded environment and to systematic and large-scale industrial operations. In the process of adjustment involved in passing from small-scale and unsystematic to large-scale and routinized industry, social and political institutions including the public-school system must undergo fundamental modifications. The scope of formal education can only be definitely and scientifically delimited by determining (*a*) the totality or content of education in a given epoch, and (*b*) the portion of this entire field which can be adequately occupied by the various institutions which informally train the youth—the home, the shop, the store, the farm, the home playground. If education is to become a social science, this problem must be patiently and systematically studied. Cultural imperatives and psychological investigations are insufficient; a science of education rests on the basis of social and economic progress and demands. Until this basic truth is clearly recognized no science of education can be formulated.

The classic concept that formal education consisted chiefly in mere passive reception of abstract ideas, that it was in reality only a carefully worked-out system of mental gymnastics, was a view indigenous to an epoch before specialization of industry and the factory system became predominant in fixing the methods of doing the world's work. This idea was the product of a period

when education was chiefly informal, when the home and the small shop readily provided the training necessary for all except a small number of professional men. In recent decades a more positive view of the function of an educational system has been generally accepted. The introduction of manual training and laboratory work into the curriculum of the public schools definitely marked an important modification in the theory and practice of education. This social phenomenon was the visible and direct consequence of important and revolutionary changes in American industrial methods and social conditions. These strangers in the sphere of formal education found the way smoothed because of the rapid progress in industrial development which was produced by the Civil War. Trade, business, industry, did not bulk large in the direct determination of American educational methods and values until after the second industrial revolution which followed the outbreak of domestic strife.

The laboratory and the manual training school are not content with mere passive receptivity on the part of the student; but require self-activity and constructive work. The introduction of these important educational accessories indicates clearly to the thinking student of social science and industrial evolution that the home, and probably the shop, had at that time lost many of their industrial characteristics. Division of labor and large-scale industry were becoming predominant in the manufacturing world. Important industrial innovation led directly to revolutionary changes in the political and educational spheres. The old methods of formal education were discarded and the old concepts displaced. At the opening of this epoch in the history of education, the school entered upon a new period of evolution; it became more than a mere place for the unwilling student to con over the problems presented in books. The functions of a workshop and of a laboratory are added to the duties of the traditional school. The work of the school system has become something more than that of mere preparation for some one of the so-called learned professions.

Ethical, social, and educational values not only change from generation to generation in response to industrial advance, but they are different in different countries at any given time. Furthermore, the various classes in a community will not agree upon any customary or new standard of education; it must be frankly admitted that even the most broad generalizations are liable to meet opposition because of fundamental differences of opinion as to the proper purpose of a public-school system. In like manner many social reformers meet serious opposition because of vital differences of opinion as to the desirability of certain changes in social relationship.

Today one class of men who are insistently urging that the public school emphasize industrial and trade education, do so because they wish an increased supply of workers who are mere workers or human automatons. Many influential employers in the United States are demanding in no uncertain tones that the public schools be utilized to turn out narrowly-trained industrial

workers who may become passive links in the great industrial mechanism of the present age. Systematization and specialization are the favorite watchwords of this class. The application of factory methods to the school is demanded in the name of efficiency and economy. Standardization, not individual treatment, is the ideal of the business man. The manufacturers were not vitally interested in manual training which was introduced as a pedagogical necessity in order that each and every child might have an opportunity to use his hands in some form of constructive work. In fact the manufacturers, because they were taxpayers, were inclined to oppose manual training as it was expensive. The purely educational value of this training to the American youth did not appeal to them since it did not directly swell profits and increase dividends. But now, when skilled men are an urgent necessity, the proposition is judged very differently; an organized effort is being made by captains of industry to convert the public schools, or certain departments of the educational system, into schools for apprentices.

Another class of men are standing for the proposition that the public-school system should train efficient workers who are also thinking men and women capable of enjoying art, literature, and leisure, and who will be able to intelligently consider the political and social problems which will inevitably arise in the twentieth century. This class demands that a well-rounded development be given each child, and that each student be prepared for useful and efficient work in the community. These two views are almost diametrically opposed to each other. The standards utilized for the measurement of educational values are entirely different. The first class, however, is quite harmonious in its agreement as to the proper scope of educational work; the second class unfortunately is not.

The progressive educators of the nations, those who are attempting to formulate a real science of education which will be a directive factor in social progress, must definitely place themselves within the second class. Industrial or vocational education should become an integral part of formal education in an epoch or a nation when industry has become large-scale and subdivided, when the home and the shop are no longer adequately fitted to impart vocational training. But since large-scale industry and subdivided labor are necessarily only present in a period of world markets and world intercourse, vocational training must be indissolubly linked with other forms of training which will broaden the outlook of the student, which will make him a citizen as well as an efficient worker with hand or brain. The aim of modern education should be, if the aim be anything more than the production of a nicely articulated industrial system, to produce men, not machines. The school, according to any broad and reasonable social concept of its function, should send from its doors healthy, efficient, and well-trained producers who possess characteristics which will enable them to live as well as to make a living.

However, before it will be possible to obtain a semblance of unanimity in regard to sociological or educational values, some fairly definite standard

of judgment for all social and political institutions must be utilized. This is a prime essential. Is there any yardstick for the measurement of social values which will be acceptable to many different classes and interests? The customary standard of recent decades has been social welfare, the good of society considered as a unit. But this popular criterion is open to the serious indictment of indeterminateness and ambiguity; it is too indefinite for practical use. Social welfare is interpreted in as many different ways as there are different classes and interests in the community; and industrial progress has increased the number of classes and interests, and has brought different nationalities into contact with each other. If we are to judge accurately of the influence of industry upon social progress, of the value of any social or political institution, or of the importance of any proposed measure of reform, some fairly definite, tangible, and fundamental standard must first be established which will supersede that of the social welfare or the good of the greatest number. If this can be successfully accomplished, all except the most radical reformers or revolutionists on one hand, and the most reactionary of the conservatives should be able to meet upon common ground, and to work in practical harmony in hastening institutional reforms of various kinds. Professor E. A. Ross, of the University of Wisconsin, has insisted that policies and institutions should be evaluated according to their significance in improving the character of the human race or the "breed of men." Men can fairly well agree upon a definition of health, efficiency, and individual and social stamina; but not upon that abstract concept, the good of all or social welfare. Few there are who will openly question the desirability of any institution or any measure which will aid in raising the standard of health, economic efficiency, or intellectual acumen. Industrial or vocational education, or any other policy from socialism to the abolition of child labor in factories, should stand or fall by this definite, fundamental, and universal test: Does or does it not tend to improve the health, vigor, and efficiency of the race?

Recent study and investigation have shown us that industrial progress has made society rather than the individual chiefly responsible for the existence of dislike of school work, inefficiency, ill-health, and criminality. The greatest wealth of a modern nation is bound up in its citizenship; and its citizenship, thanks to the "industrial factor" in modern life, is chiefly a social product. The presentation of abstract educational ideals and values without due regard for the conditions of home, shop, and leisure-hour environment, is a futile process. The great problem of the present, the one which towers above all others, is to universalize opportunity for decent health and comfortable living not for a few but for all; it is to give to each and every child in this great and rich land of ours the heritage of a child—decent home surroundings, sufficient and proper food, opportunity to play, and a chance to use hand and brain in some form of constructive work. This is the social, political, and educational problem of the age; and the peculiar form in which it is presented to the present generation is due to industrial advance. The key to its solution can be

found only by him who searches by way of the path of industrial evolution. The "industrial factor" is the chief factor in modern social, political, and educational problems; because industry is the determining factor in fixing the conditions of living, working, playing, associating, resting.

If this basic and tangible standard for measuring institutional values be accepted, education and statistics become the trusted servants of sociology—the science of social progress. The true function of an educational system is now clearly seen to be directive; it should give efficient aid in reducing the friction inevitable in human society as industrial and social changes occur. Education should produce the adaptable man and the adaptable society. In a modern industrial nation this concept of education presents industrial or vocational education as an integral and important part of the work of the public schools. The aims, methods, and character of formal education in any epoch or in any given nation can only be scientifically and rationally determined by resort to psychological investigation and to a careful study of industrial evolution aided by accurate statistical information. The basic standard of judgment should be its effect upon the health, efficiency, and intellectual vigor of the youth of the nation. Until educators and school authorities are ready to accept these fundamentals, "groping in the dark" and confusion as to essential principles will continue.

THE INDUSTRIAL FACTOR IN EDUCATION

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According to the plan of the committee the purpose of this chapter is to discuss "the psychological and social need for constructive handwork and for industries as a 'subject' in school." The aim will be to analyze and to state as compactly as possible the various phases of this need as it displays itself in the child growing up thru the school to maturity. The discussion will assume the results of the preceding chapter as to the importance of industries as a cultural force and will leave for the succeeding chapter the history of the theory of industrial education.

It seems, however, almost necessary to preface a discussion of the psychological need for any subject in the school by a comparison of the part psychology has in the past played in the determination of the work of education with the function assigned to it by schoolmen today. The great educational reformers—Rousseau, Pestalozzi, Herbart, and Froebel—were convinced that the fundamental need in education was that it should be based on a sound psychology. So thoroly were they possessed with this point of view that they looked to psychology to determine not only the method but also the aim of education. The problem of the schoolmaster they conceived to be a development of that which is potential within the child. In this attitude they were protesting against an endeavor to enforce upon him a number of disagreeable tasks more or less remotely connected with the business of life. Even Herbart,

with his emphasis on the importance of the external process of instruction, agreed that the aim of education is "the harmonious development of all the powers" or, according to his phraseology, the development of "many-sided interest." Education according to this view aims at personal culture, at realizing the self, at bringing to light the possibilities that God implanted in the child; these are all methods of stating the purpose of education which leave to the psychologist the problem of determining its specific character. For who but he whose study concerns the nature of the mind can be expected to know its potentialities?

The theory that psychology should determine not only the method but also the aim of instruction possessed the minds of the earlier advocates of manual training in the United States. Among the important characteristics of the child is the fact that he has a body and is capable of doing an enormous number of things with it. Moreover, he is intensely interested in doing many of these things. For a long time the physical activities are rather more in evidence than the mental ones, and all of the instincts point toward them. Soon the instinct of constructiveness appears, fashioning the form of many games. The teacher, alert to the potentialities of the child, marks the power and the instinct to use the hand, and cultivates it to insure that perfectly developed man toward whom his task is conceived to direct itself.

With the progress of time the ideal of personal culture has been largely modified or replaced by that of efficiency. According to this aim education concerns itself with preparing for life rather than in cultivating all the powers of the child. The study of what man has to do, particularly the study of the social organization into which he must fit, has come to be conceived as the proper method of determining the purpose of education. On this basis the mere fact that a child possesses a capacity is no reason that the school should aim to develop it. On the contrary, many capacities, since they bear no relation to social life as at present constituted, may well be suffered to atrophy. If there is to be education in constructive work, it must be because there is a social rather than a psychological need for it.

Such a need is not, however, far to seek. The growth of industry in modern times has been such as to place it at the very front among the interests of communities and of nations. Science, for many ages merely the pursuit of a learned leisure, has been harnessed and put to work. It has concerned itself with the tasks intrusted to the servile classes. It has relieved their labor of some of its severest strains, has elevated its character, making it more intelligent, and has created the need of a broader intellectual training as a preparation for nearly all the vocations than was required a century ago. If education is to prepare for life, it must begin by preparing to make a livelihood, and the vocations of the vast majority of those whom a democratic society would educate involve forms of handwork and industry in which the school can give an extensive training. Such training is becoming increasingly necessary because of changes in the industrial life that tend to check or to destroy the

apprentice system, and because this life is continually becoming more complicated and difficult to understand without specially directed study. Thus the school is being forced to take up vocational training in a great variety of occupations hitherto prepared for adequately in other ways, for the negative reason that the other ways are disappearing and the positive one that it alone is capable of furnishing a training suited to modern needs.

It is evident, therefore, that, from the standpoint of aiming to prepare its pupils for efficient living, the modern school is more and more compelled to take into account both constructive work and the study of industry as a fundamentally important group of subjects. There is a social need for such work. But in the endeavor to fit it into the course of study difficulties arise. Since the work is commonly recognized as vocational, many parents see no need of it for children who are not expected to pursue the callings to which it is supposed to lead. This is especially true of the constructive work, the survival of "manual training." It finds difficulty in making its way into the earlier part of the curriculum, which is necessarily the same for all. To effect this entrance and to maintain its ground, it has been compelled to assume generalized forms that seem to constitute integral parts in the culture of everyone. Moreover, it has been tempted to defend these forms not on account of their somewhat remote utility, but rather on the ground of the older psychological arguments of discipline and all-round development. If these arguments are, as seems inevitable, to be abandoned, it is evident that the elementary school must find and teach that phase of industrial life that is suited to children and useful for all, and cease to rely on the cultivation thru manual training of such general powers as accuracy, moral rectitude, co-ordination of eye and brain and hand, etc.

Many considerations conspire to make wise the postponement of the more purely vocational part of constructive work and the study of industry until at least the dawn of adolescence. It is specialized work and to introduce such training early seems bad for at least three reasons: (1) It encourages differentiation before the child has revealed himself to others or has discovered his own tastes and aptitudes. (2) It initiates specialization before a child has obtained the general foundations of his culture, and while he is still immature. Many declare that this leads to prematuration and to arrested development. (3) It tries to teach children what can be learned effectively only by older persons and especially under the pressure of practical need. This results in a waste of time.

The problem of constructive work and of the study of industry has thus very quickly resolved itself into one of determining on the one hand the elements of general culture and on the other those of specialization that these subjects involve. This analysis completed, the two factors can be assigned to different parts of the school program. The special training can well be postponed until the work of the elementary school has been finished. The general culture would need to be properly correlated with the age of the pupils and the

general arrangement of studies in the school. Herein the issue comes to involve questions of the psychological needs of childhood.

Before taking up these questions, however, let us note a little more carefully the nature of that general social need at the behest of which the studies in question should be introduced into the elementary school. It is evident that their general utility is not identical with what it has been in the past. With the development of industry into more and more elaborate organizations of highly specialized activities, the all-round manual skill so important in both men and women a generation ago is ceasing to be an especially valuable source of efficiency. On the other hand economic interdependence is becoming greater, and it is growing increasingly important for each to know many things in order to keep his activities socially and vocationally in efficient co-operation with the activities of others in different walks of life. The substitution of economic interdependence for economic independence has made it necessary for each, if he be not to descend into the position of a mere tool of the social machine to be taken up or laid aside at the will of those who use him, to understand the relation of his vocation to others well enough to exert a controlling influence in reference to its status and its development. He must be able not only to readjust himself to changes in his vocation, but to assist in the work of readjusting his vocation to the varying conditions of community life. To do this he needs a general knowledge of many vocations. The world of industry in general becomes of importance to him as well as his own specialty.

It is to the task of laying the foundations for a general knowledge of industrial life that the elementary school must address itself. In this work mere manual training becomes subordinated to the study of industry, as a method rather than an aim of instruction. The group of subjects becomes an introduction to a fundamental phase of economic life and serves a utility quite as definite as that of instruction in the three R's or in geography. Culture having this general aim may well continue after the study of specific vocations has begun. The more effectively it is mastered the more surely, we may suppose, will the trained man be master of his vocation rather than its slave.

Whatever may be the factors in industrial intelligence, it is evident that one is a knowledge of the general facts of economic and industrial life such as enables the individual to see clearly the relation of his own vocation thereto. Upon such knowledge is founded sound judgment as to the rights and duties of each craft as well as of its possibilities and necessities.

We turn now to the psychological problem—the problem of adjusting constructive work and the study of industry to the nature of the child. It may be said of both, and especially of the former, that nature has left the schoolmaster little to do. Children inherit so great an interest in such activity that it, so far from needing aid in order to be made enjoyable, constitutes one of the most effective means of arousing interest in any subject that can be taught thru its assistance. Those educational reformers, who have striven to reorganize education, making it more interesting and more in accord with

the nature of the child, have usually been pronounced advocates of constructive work. We may distinguish between two general uses for which it has been employed: (*a*) to give motive for school work otherwise meaningless and uninteresting, and (*b*) to render more positive and lasting the results of instruction.

As a means of motivation constructive work possesses the following advantages: (1) It appeals to the love of activity, especially physical activity so prominent in children. To younger children the mere making of things seems worth while apart from any uses to which the product may be put. (2) It appeals to the primitive interest in the concrete, that which represents processes and results easily apprehended by both sight and touch and the muscular sense. In such material young children are absorbed, and it is astonishing how little general meaning or value is necessary to insure their interest, provided the material with which they are working be of this tangible character. (3) Constructive work connects itself with occupations and products the utility of which is seen illustrated in the every-day life about the child. Indeed, they are among the first utilities to be grasped by the child's mind.

When we turn to the value of constructive work as a means of strengthening the results of instruction we distinguish two fundamental advantages: (1) It furnishes one of the easiest and most effective ways of applying the principle that learning should, or, as the "functional" psychology puts it, *must* be by doing. (2) It teaches through the application of principles to a sort of practice more nearly similar to that of the life-situations in which these principles are expected to function than is that of much of the school.

The newer psychology takes the ground that we do not attend, do not discriminate, and so are not conscious, except when this is necessary to bring about readjustment between reactions and stimuli. Learning is always connected with the reorganization of our modes of behavior. Apart from constructive work the school presents only one form of physical activity of great importance. This is that of language, either oral or written, and the great aim of such activity is to come into adjustment with certain standard words, notably those of the teacher. Now while such activity must always remain one of the most fruitful occasions for learning inasmuch as nothing can vie with the social situation in offering emergencies for readjustment, it is exceedingly valuable not to be limited in school doing and learning to this sort of thing. The addition of the endeavor to manipulate materials supplies a characteristically different sort of emergency. In adjusting himself to other minds the child is dealing with persons who are continually by their own efforts furthering, or hindering, his endeavors. In either event, the condition of dependence is emphasized. The child is led to consider success or failure to be a matter of the point of view of others; and this point of view may be and all too frequently is dependent upon circumstance and mood, inaccurate, uncertain, transitory, unjust, or absurdly compliant and easy rather than fixed, true, and inevitable. The methods of dealing with minds vary from cajolery and domineering to persuasion and the appeal to the sense of right. In any case they differ greatly from

the dealing with mere physical materials, where there is one law, the mastery of which is the only method of securing results, and where the child can have no thought except that of simple direct control. It is an unquestionable addition to the resources of the child that he has accustomed himself to deal intelligently with physical materials as well as with human minds.

Moreover much that is learned in the school is intended to be applied not in the control of men, but in the manipulation of material. In that event constructive work in the school offers the only method by which the principles can there be applied as they would be in life. That they should get this sort of school application is fundamentally important. Facts learned in order to be recited are, by a simple principle of recall, not apt to be remembered where the circumstances and the emergencies are so vastly different as in the case of school questioning on the one hand and a workshop on the other. The more nearly the school environment corresponds to that of life in general, the more likely it is that the ideas learned in the former will be applied in the latter. The identity of principle is not sufficient with most minds to overcome the effect of diversity in all other associations, and the mind recalls many things, but not that far-away bit of school learning which is the one thing useful. It may therefore safely be said that whatever is to be applied to problems in construction should be learned wherever possible in connection with such problems.

Very much the same analysis that has been made of the psychological need for constructive work in the school applies to the study of industry. In fact it deals with that phase of life to aid in the study of which constructive work finds its principal use. Connecting itself with interest in and imitation of the simpler forms of adult life, it leads gradually to a desire to participate in the work of the world. It is to be hoped that the constructive work and the study of industry in the elementary school will ultimately be of such a character that when the pupil reaches the age at which the activities of adult life make their appeal, he will be able to make a wise choice in reference to them, and be already advanced in an appreciable measure toward the goal of his special vocation.

It is especially in connection with relating school work to the realities of life that the study of industry becomes important. The public in a democratic and commercial and industrial community are apt to find reality rather more in such work than in science and art, literature and philosophy. The children of such a public are prone to discover in the study of industry something that connects the systematic and especially the formal work of the school with the real problems of life. Under these conditions the school finds this study a means of putting motive into many contributory studies and of securing such a setting for its teaching as will make likely its application at least to the utilitarian pursuits of life.

The problem of motive becomes especially difficult in the later years of the elementary school. Children at this time pass, so far as regards their outlook

upon life, into a distinctly different phase of development. We can bring this out by describing the earlier phases. The young child is a creature of impulse and of imagination, absorbed in doing or thinking that which is immediately suggested to him. Reflection is gradually forced upon him. The period from eight to twelve is a critical age, an age of rivalry in games, of the felt presence of social criticism and coercion in reference to all the physical and mental activities that the child puts forth. Under this pressure he becomes reflective. He subjects imagination to standards, the standards of social acceptability, of truth, of propriety. Such standards vary with individuals and social groups. The teacher does not always agree with the parents, much less with the man on the street. Among the children groups arise on the basis of difference in ideals. Later on the adolescent discovers that among these warring views of life he must choose one for himself to be his own. He arrives at the age of independence and becomes himself the critic, declaring his freedom from coercion.

It is at this age that the rate of elimination of pupils from school becomes portentous. The reasons that cause children to leave school are very numerous, but unquestionably a very large proportion, at least a majority, give up because they cannot feel that it will repay the sacrifice of effort or expense or both that it involves. Other reasons are for the most part contributory. This one is fundamental. There are two classes of children to whom school work does not seem worth while. One of these consists of pupils who can and do get on well in the school but find the activities on the outside more interesting and profitable. The other is composed of pupils who do not prosper in the school. Such children naturally grow discontented. No one can be expected to regard as worth while for him that which he is incapable of doing. Moreover, in such a competitive atmosphere as a school merely to pass means practically to fail.

Now it is evident that just as constructive work may offer the motives of activity and the making of concrete things to younger children, so to older ones it, especially when combined with a study of industry, will seem worth while to many of both these two classes of the ordinarily eliminated. For those who fail in the older studies of the school, the constructive work may offer a field for success. For both classes it should constitute the main part of the later school program. As an integral part of the preparation for life, it deserves a place proportionate to the number of those who need such preparation and the amount of such preparation it is possible and desirable to give.

We have reached again from the standpoint of the study of the developing nature of the child the issue of specialized vocational training. It is evident that the general training of the earlier years of the elementary school should be what is deemed necessary to all and what introduces those who are to specialize in some form of industry to their work of specific preparation. We have not, however, as yet considered sufficiently the problem of the initial steps in differentiation or specialization. This problem is in our democratic system one

among the most difficult and important that we face. It is a question whether the problem of determining what the vocation of the man shall be is not more difficult and exacting than that of preparing him for what has been chosen. The European systems of education, which have not been burdened to such an extent as our own with the ideals of a democracy, have found it easy to engraft vocational instruction upon an elementary system intended only for those destined by birth to some form of industry. In our boasted continuous ladder of schools, where the elementary school leads into the high school and the high school into the college, the introduction of special training in industry has not been so simple. It means differentiation. It has seemed like cutting off from the children who took it the opportunity for such careers as were limited largely to those who had completed the higher course. We have felt that education shall give to all an equal chance to attain any distinction in life. Hence we have clung to a system associated with the training of leaders, even tho such a system may be poorly enough adapted to the education of anyone else.

It is likely that we shall find our way out thru a change in our conception of leadership on the one hand and a discovery that our time-honored method of training any sort of a leader needs extensive modification, if not revolution, on the other. It is not, however, the purpose of this chapter to discuss these changes. We may confine ourselves to the crying need for a system of education that shall provide training adequate, in the first place, to enable a fairly intelligent choice of a calling to be made and, in the second place, to prepare for whatever may be selected. We are fully alive to the need for the second of these advances. It is doubtful whether our educational leaders have been in general adequately impressed with the need for a system of school work the primary purpose of which should be to enable the pupil to find himself and the teacher to give to him intelligent advice on the matter.

From the point of view of the development of the child, the age at which this process of experimentation toward a calling should be definitely initiated corresponds fairly well with the beginning of the seventh school year. Its external symptom is the high rate of elimination from school at that time, and its internal sign is the unrest, the questioning of values, the beginnings of "storm and stress" that characterize the commencement of the age of independence, of adolescence. It would seem that at this time the secondary phase of education should begin.

There has been in our country some trouble in defining just what secondary education is. The demarcation between it and the elementary school on the one hand and higher education on the other has been one of years and of studies rather than of general function. There has been no clear reason except custom and a felt convenience for having secondary education begin and end where it does. It is possible, however, to distinguish three well-marked functions of education, which might be assigned to elementary, secondary, and higher education, respectively, without much destructive readjustment of our

present system. Elementary education concerns the essentials and the fundamentals. It is the education that precedes any attempt at differentiation. With the development of the child up into the age where such differentiation becomes necessary an epoch of experimentation sets in. The main purpose of the education of this period should be to afford an adequate basis of experience for the choice of a specialty and to guide the process of selection. Such education we may call secondary. When once it has been determined as well as is practically possible what the child should do, the time for higher education, that is, for the special preparation for a vocation, has appeared.

On this plan we should not have a system in which, while elementary education is supposed to be for all, secondary education is only for a few, and higher education for the very few; but each phase of the work would find representation in the education of all or most pupils. At the beginning of the seventh grade the work of experimentation might well begin. A large number of children have by this time demonstrated their unfitness for what might be called a professional career. For them the severer studies, involving the power of mind to grasp and utilize the abstract ideas and processes involved in mathematics, science, language, etc., are not profitable. They should be given experimental work along the line of industrial training supplemented by concrete cultural work in literature, civics, geography, and science, such as adapts them for the duties of citizenship and social life. We may tentatively suggest that two years of such work would put these children in the position of making an intelligent choice of a vocational school in which to complete their education.

At the beginning of the seventh school year those whose mental traits make it desirable might enter schools where the older type of secondary work is prominent. But we might expect that continually new revelations will be made in regard to the talents and tastes of such pupils, and that little by little those who are unable to do the work that leads to the higher professions will be selected out to enter vocational schools that prepare primarily for intermediate positions in industry, commerce, the civil service, etc. The period of secondary education would, on the theory proposed, extend until the choice of a vocation has been made on the basis of sufficient experience. The knowledge necessary to make such a choice is of necessity more extensive, the more advanced the vocation. Properly speaking, the secondary school would include the present liberal college course.

The characteristic feature of the secondary school on this theory is the emphasis upon experimentation and selection. In such a school the experimental subject would be especially prominent. This may be defined as a subject studied primarily for the sake of finding the extent of its appeal to the powers and interests of the student. Experimental studies therefore should not be elective but prescribed, for their function is to compel, as it were, the student to explore the field of human thought and endeavor adequately before he is permitted to settle upon his peculiar specialty.

An adequate range of experimentation would involve the secondary but by no means unimportant gain of a broad outlook upon life. Thus the student will be getting his liberal culture to a great extent while he is engaged in the process of selecting his vocation. The study of industry and constructive work would thus constitute factors not only in the elementary but also in the secondary education of every student. All children would have enough of them to know and to do the things that they concern in so far as they enter into the life of all. Every student should have enough more such study to enable him, no matter what his calling may be, to understand and to sympathize and co-operate with those whose life-work lies in these fields. The process of differentiation initiated by the completion of the elementary course would still leave to all some further work along such lines both for experimentation and culture. We may assume that when the experimental work has been completed the needs of culture will have been in most cases fairly well satisfied.

The current usage assigns vocational schools of the trade-school or technical-school type to secondary rather than to higher education, where they would be placed according to the classification just suggested. This arises historically because such work is usually taken in lieu of the secondary training of the older sort. The classification made in the preceding discussion aims to provide a basis for the determination of the character and function of constructive work and the study of industry as we go from the age of elementary education on into that of experimentation toward a vocation and further into that of specialized preparation for the one selected. In the subsequent chapters dealing with the work of special schools the classifications of current usage are retained, but the spirit of the distinctions that have been made in this chapter is embodied.

SOME NOTES ON THE HISTORY OF INDUSTRIAL EDUCATION IN THE UNITED STATES

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Up to the middle of the last century, while American communities were struggling to afford an elementary education to all the children of the country, the question of training for industrial life claimed little attention as an educational problem. Up to the end of this period industrial life was for the most part a matter of small units as to organization, and of small quantities as to production.

Industrial processes were far less subdivided than today and apprenticeship, or some form of training beginners, was far more general. Under these conditions the division of function between school and shop was clearly drawn. The school centered its efforts upon general instruction, and the shop and factory took care of the training of their own recruits. For his subject-matter, the schoolman looked away from the industries rather than toward them; his aim was naturally the organization of a body of instruction of a thoroly general character based first of all on the tools of communication, and extending later to the subjects of literature, history, and science.

During the last sixty years social and industrial conditions in the United States have undergone great changes. To these changes educational ideals and methods have been very slow in adjusting themselves. The old division of function between school and shop built up a persisting conviction that an inherent virtue lies in jealously excluding everything pertaining to vocation from public-school instruction, and led educators stoutly to insist that all such training should be gained in commercial practice, or at least outside of the public schools.

During these sixty years the course of industrial development in this country has been marked by a tremendous increase in the size of productive units and attendant quantity production; by extraordinary division and subdivision of labor; by the steady introduction of machinery, and by the proportionate lessened need of the highly skilled worker. At the same time the methods of the industries have become immeasurably more dependent upon the principles of exact science, and more and more have come to require some need of specialized knowledge on the part of the skilled worker. This development, which has left but few industries untouched, has changed the industrial organization from comparative homogeneity to a situation in which a minority of workers requires even greater skill and intelligence than formerly, and a majority which need skill only in a narrow range of operations.

Coincident with this industrial development, many industrial practices have been taken out of the home life and away from the farm and the village and segregated in the factory. Life in the tenements of the modern city affords few of the manual experiences of the earlier days, so that today the average boy in school is very much farther removed from a contact and knowledge of industrial processes than was the case sixty years ago.

This industrial expansion is confessedly the most important feature of our national economic life during the last half-century; it is the current that is gradually changing us from an agricultural to a manufacturing people and which will in the near future constitute the largest element in our national wealth. During this tremendous evolution both the public school and the industrial establishment have preserved their separateness of function. The school has held in the most part to its original attitude and the shop to its early methods of training. It is only of late years that the steady pressure of economic necessity, and the fact that the old methods of training for vocations have become inadequate, have forced the realization that new conditions demand new methods, and that in the double problem of general and vocational education, once so sharply divided, the school must assume an increasing share, and on the other hand that the shop must borrow some of the methods of the school.

In spite of this general lack of correlation between education and industry the school as a matter of fact has in a number of ways reacted upon the industrial situation.

The first efforts to meet the new conditions resulted in the establishment

of evening schools under private auspices. Cooper Union and the Mechanics' Institute of New York City, Franklin Union and the Spring Garden Institute of Philadelphia, the Ohio Mechanics' Institute of Cincinnati, and the Mechanics' Institute of Richmond, Va., were nearly all founded or opened evening classes during the fifties. The immediate demand upon such schools, and the obviously important results in affording ambitious youth an opportunity to obtain the technical equipment increasingly demanded in their daily pursuits, should apparently have resulted in the early inclusion of such work in public education. That these results did not follow was undoubtedly due to the fact that the spirit of public education was at that time distinctly alien to such work. As a matter of fact, our public evening-school work has limited its scope almost entirely to instruction in language, arithmetic, and other general studies, and it is only in recent years that differentiated and specialized courses relating to industrial needs have been introduced in evening public schools.

The next important reaction of organized education upon the industrial situation was that which took place for the most part in the period of mining and railroad expansion following the Civil War, and which resulted in the establishment of many engineering schools or institutes of technology. The establishment of such schools was at first thru private foundation but the passage of the Morrill Act in 1862, by which large land grants were made to the states for the support of instruction in the agricultural and mechanical arts, resulted shortly in the inclusion of engineering departments in most of the western state colleges and universities.

The development of this type of institution has been widespread in the United States and has produced an institution in some respects superior to anything of its kind to be found abroad. The function of such schools is, of course, to produce the engineering and technical expert, the men needed to design industrial constructions, to devise technical processes, and to superintend industrial production. The object of such schools is not to train workmen or even to develop men of the foreman type.

The first serious agitation for the inclusion of industrial education in the public schools was, naturally enough, when the prevalent attitude of the schoolmen is considered, not for real vocational training but for the inclusion of manual work in the general course of study as an element of culture and general efficiency. The Manual-Training School connected with Washington University, St. Louis, opened classes in 1880 and was rapidly followed by the establishment of manual-training high schools in other cities, some under private foundation but in many cases organized as part of the public-school system.

It was not until the years between 1887 and 1890 that manual training reached the elementary school. Starting with shopwork classes in the upper grades it gradually made its way downward thru the school until it is now represented thruout all the grades in the schools of many cities.

The trend of thought in the whole subject of industrial education is well indicated by the changing conception of manual training as a feature of school work. In the early agitation for the introduction of manual training in the eighties, the claims put forward for the new subject as evidenced in the discussions of the National Education Association, and particularly in the meeting of the Department of Superintendence in 1888, were in the main based on the conception of formal discipline. Manual training was entitled to a place in the school because it exercised the observation, trained the reasoning powers, and strengthened the will.

Altho it is doubtless true that public support of the new movement was due to a vague but sincere conviction that the introduction of handwork stood for industrial training, educators as a rule most carefully refrained from advancing a claim for utilitarian value in the work and all utterances were for the most part expressed strictly in terms of the prevailing faculty psychology.

The practice of manual training in these early days was as barren as its philosophy. The type exercise was the universal form in which handwork appeared. Not until the influence of Swedish Sloyd began to make itself felt in the nineties, with its emphasis on the value of working for a useful end, did a new idea enter into the manual-training conception. Whatever may be said of the limitations of this influence, its effect was at least to make practice more realistic and to bring into methods of teaching the vital principle of interest.

About this same period the doctrine of formal discipline began to lose its place as the cornerstone of manual-training philosophy. By the beginning of the present century the conviction had developed that such work comes into natural relations with the worker only when he contributes something of his own thought to attain the end placed before him.

Out of this attitude aided by a deeper study of the thought of such educational leaders as Froebel, Pestalozzi, and Herbart, and clarified by the emphasis of the psychologists on the unity of the mental processes, developed the conception of manual training as a means of expression, a means of expression in terms of form, color, materials, muscular activity, and concrete ends, a means of expression peculiarly adapted to child life.

During the last five or six years the growing emphasis placed upon the social meaning of education has caused attention to be turned more and more to the subject-matter or content side of manual training and the conception of manual training at least in the elementary school has come more and more to be that of an educational instrument interpreting the fields of art and industry in terms adapted to child life and the limitations of the school.

In the high school, however, neither practice nor philosophy has undergone much change. Halting between the cultural and the vocational aim such schools have increased in numbers but still continue to occupy a somewhat indefinite educational status.

Turning to definite efforts to train workers for the industries in public schools we come to the trade school, the intermediate industrial school, and

the part-time school. All of these institutions are of late development. It is true that the first trade school in the United States (the New York Trade School) was founded in 1881, but in the first twenty years after that date only two important schools giving training in the mechanical trades were added, viz., the Williamson Free School of Mechanical Trades near Philadelphia and the Baron de Hirsch Trade School of New York. To these might be added the Miller School of Albermarle, Va., which gives agricultural and trade instruction in the later years of a course of general education. The existence of each of these schools is made possible by extensive endowments.

Since the year 1901 some ten or twelve institutions that may strictly be called trade schools have developed in different parts of the country under either public or private support as well as a number of commercially conducted schools in the building and other trades.

In 1907 the trade school entered upon the stage of public administration. In that year the already established Milwaukee School of Trades was taken over by the city under the terms of the industrial education law passed by the Wisconsin legislature. Since that date public trade schools have been opened in Philadelphia, Pa., Portland, Ore., and Worcester, Mass.

Such schools are still in the experimental stage. They face grave economic problems that are still unsolved. First among these is the problem of support presented to the student worker during the period of instruction. This difficulty serves to restrict the number that can take advantage of such schools to the comparative few. Training for the skilled trades is in common practice restricted to the period above 16 years of age and as the great bulk of the youth who will form the mechanics and industrial workers of the country must of necessity enter upon remunerative work at sixteen or shortly after, the sacrifices necessary to permit attendance at a trade school can be expected only in cases of exceptional foresight and home conditions above the average.

The second aspect of the economic problem in relation to such schools is found in the large expense of administration, instruction, materials, and physical maintenance in proportion to the number of students that can be instructed.

During the last three or four years a fundamentally different type of school has been much under discussion, viz., the intermediate industrial, general industrial, or preparatory trade school for boys and girls from fourteen to sixteen years of age. Interest in this type of school was developed by the report of the Massachusetts Commission on Industrial and Technical Education made in 1906 in which much stress was laid upon the lack of economic progress experienced by children who leave school before graduation and start into industrial work before the age of sixteen.

Since then the conviction has been growing, not only that the large number of children leaving the elementary school before graduation constitutes a most serious educational and social problem, but that it is a problem vitally related to the whole question of training for the industries. The idea has been gaining ground that one of the greatest needs of industrial education is to

provide a school training for those who expect to enter the industries at sixteen that will give a sound basis of general principles and a wide acquaintance with materials and processes and so make possible the development of industrial intelligence and in consequence of industrial adaptability.

The aim of such schools is not a specialized trade training but such instruction in the processes fundamental to several trade groups that will give an advantage to the boy of sixteen, whether it be to enter upon the work of mill or factory or to take up the task of learning a skilled trade. Schools of this type have been established as parts of the public-school system in New York State at Rochester, Albany, and New York City, and New Bedford, Mass.

The part-time or co-operative school plan is an attempt to combine practical training in a commercial establishment with general and technical instruction in a school. This plan which has been in very successful operation for some years with the engineering students of the University of Cincinnati, has very lately been applied to students of the high-school age.

The details of such co-operative systems seem likely to vary considerably according to whether the student body comes originally from the shop or from the school. In Cincinnati a group of two hundred machine-shop apprentices are being given four and one-half hours of instruction per week in the public schools. In Pittsburg and Beverly, Mass., on the other hand, elected groups of high-school students are given a week in commercial establishments followed by a week in school.

The attempts to develop the part-time plan of instruction have only begun to appear, but it is safe to assume that the great economic and practical advantages of the plan will result in many further experiments in the near future.

On the side of state legislation, the increasing interest in industrial education is reflected in the passage of laws providing a measure of state support and state direction for industrial and trade schools in the states of Massachusetts, New York, and Wisconsin.

This brief résumé may serve to indicate that many American states and communities have committed themselves to the general principle of industrial, or more broadly speaking, vocational education as a part of public education. It will serve to indicate also that while certain types of schools have proven of unquestioned value, others are still in the experimental stage, and that several years of further study and experience are needed to demonstrate fully just what types of industrial education are destined to find a permanent place in the American public-school system.

I. REPORT OF SUB-COMMITTEE ON THE PLACE OF INDUSTRIES IN THE ELEMENTARY SCHOOL

Since a large part of the population, three-fourths to nine-tenths, according to locality, never succeeds in entering any other than the elementary school, three obligations, distinct and somewhat conflicting in the demands which they make upon the curriculum, would seem to be placed upon this school:

1. To develop as much as possible of culture—enrichment of life thru knowledge and appreciation of human achievement in history and art.

2. To give the best possible start toward the life-work in which the person will be most content and most efficient.

3. To furnish the best possible training for citizenship thru developing a sense of social obligation and by preparing for effective membership in the various social groups.

To these might be added the aim of giving to a minority the best possible preparation for continuing their education in higher schools.

Even if the whole effort of the school were given to one of these aims, the results obtainable in so short a time and with pupils so young would necessarily be inadequate, and the more so since the time must be divided, in some degree at least, between the three. They must compete therefore for time and emphasis in the curriculum, except in cases where the material and treatment deemed most appropriate for one is found to be the most appropriate for the others also.

Complete unification in this fashion is hardly to be hoped for. It is, however, the belief of the committee not only that the subject-matter furnished by the industrial arts holds a fundamental place in relation to all three of these aims, but that this material, more frequently than other subjects in the curriculum offers opportunities for realizing these aims conjointly.

As a cultural subject, history, broadly defined, will doubtless be granted the first place in the curriculum. But much of the content of history is beyond the grasp of children. The development of industry is the most concrete and the most clearly continuous aspect of history which can be selected for them, and it is a factor so fundamental in social progress that an appreciation of it may well be made a first aim of the school. Industrial history is also the history of science, and, if in less degree, the history of social organizations. It is, as Dewey says "no materialistic or merely utilitarian affair. It is a matter of intelligence. Its record is the record of how man learned to think, to think to some effect, to transform the conditions of life so that life itself became a different thing."[1] Equally an element of culture, in this industrial age, is some understanding and sympathetic appreciation of modern industry, its methods, achievements, and social significance. As culture, there must be study of the more important industrial materials of the present day, of the processes thru which they pass; of the machines and reagents utilized; and of the two great factors in the continuing progress—science and organization.

From the vocational point of view, it is clear that the industrial arts are equally serviceable. Whether this is to be a major or minor aim in the elementary school the industrial opportunities of the average city are such that an acquaintance with the industries, in addition to that acquaintance with commerce which is already provided for, will be the most promising form of vocational assistance to be offered to those pupils about to enter gainful occupations. This is a subject which concerns mainly the later years of the school,

[1] *Elementary School Record*, p. 200.

rather the elementary period as a whole, and may be most appropriately discussed as special work for the grammar grades.

The bearing of the industrial arts upon citizenship, and upon general social effectiveness other than economic, is a topic which leads somewhat away from consideration of subject-matter as such. Training, as well as knowledge and information, is a factor in the development of a proper social attitude and spirit, and tho modern psychology which has shown that confidence in many of its forms and methods has been misplaced, training and discipline still remain a fundamental aim of the school; the main difference being that the discipline is now being brought as close as possible to the special field in which it is expected to do duty. If general training is a myth, particular types and lines of training are the more essential.

The problem of training for citizenship, therefore, becomes that of placing the child in an environment which permits and demands the exercise of citizenship, and the greater the resemblance between his present and future fields of citizenship, the more effective the training secured.

It is generally recognized that the conventional school life, while developing certain social habits of importance, is yet a very artificial type of social experience, when compared with the life outside. The argument here for the study of the industrial arts is simply that, since it may be carried on not merely by textbook or recitation but by actual reproduction of their processes, it may furnish the pupil rich social experience, more genuine and closer perhaps to that of the outside world than the school can offer him in any other way.

The line between the purely social and the economic values in such training is naturally difficult to draw. Such experiences in production should not only develop a social adaptability, thru the working over, under, and with others, but should also habituate pupils in a degree to such planning of work, estimating of cost, and economizing of materials, as the outside world will eventually require.

It is apparent that the study of industrial arts here contemplated includes much more than the various lines of handwork which have already found lodging within the curriculum. "Manual training," as its name indicates, was introduced as a means of formal discipline and the place which it has made for itself is well apart from its relations to the industrial life. Taken in hand by students of child psychology, it has been made to appeal effectively to children's motor and imitative instincts, and to serve as a means of comparatively spontaneous expression. It has also been made to furnish some concrete applications for other school work in mathematics, science, or art. Its effectiveness in these respects probably justifies all the recognition which it has received. But such work may be, and often is, carried on successfully from these points of view with only the most incidental reference to the industries as such, and without developing any generalizations regarding them; and so much has been made of its value as a *method* of securing either manual skill or free expression that the question of its *subject-matter* has often been ignored.

It is only of late years that the significance and meaning of the industrial arts as social subject-matter has had attention, and it is a fair assumption that the present curriculum shows only the beginning of the recognition which this aspect is destined to receive. Following this there may be expected a proportionate increase of emphasis upon actual constructive work, which will then have place in the school life not only as an appropriate means of expression but also as experience thru which fuller understanding of the nature and significance of the industries may be gained.

THE WORK OF THE PRIMARY GRADES

The younger the pupil, the greater, of course, are the limitations under which the school work is conducted and the more of attention to be given to method as opposed to subject-matter. Without denying that the later school years are concerned with the doctrine of interest and the conception of education as expression, it is clear that the earlier years are the ones most directly concerned from this point of view; in the primary grades special attention is to be given to the reactions which are secured from children and that these depend largely upon the appeal which is made to their native instincts and impulses.

Numerous studies in the psychology of childhood have combined to emphasize the significance of the motor impulses during this period, and the strength of the interest in concrete materials. They need not be quoted here. Our present problem is, recognizing fully the importance of an education during these years that shall "start from the child," to see in what ways the concrete and motor work may "lead into society"—how to give social content to these spontaneous interests and activities.

First may be noted an important element of value available from almost any form of "manual training" quite apart from any direct relating of this to the industrial arts; i. e., general acquaintance with the qualities of common materials, their measurement, and their manipulation. This will at least have value as a foundation for the work of the later school years. However, if the handwork be centered around the fundamental industries pupils may gain two further types of knowledge and experience:

1. Knowledge of the nature and operations of the industries upon which their own lives are most immediately dependent.
2. Knowledge of the history of these industries and the course of their development.

The relative value of these two types of subject-matter for the primary-school period is a question much discussed and with no general agreement as yet. Upon the decision here depends the choice between what may be called the neighborhood approach and the evolutionary approach to industries.

In taking the neighborhood approach, the pupils would be led to the observation and reproduction of the activities which they see to be meeting their own immediate needs, such as those of bakery, truck-farming, or house-building. Other industries having special local prominence would come

in even tho their service were of a less fundamental nature. The evolutionary approach, on the other hand, would select the most fundamental industries, and would produce first the earliest and simplest processes, following in order the steps of their development toward the complex forms of the present time.

Each plan has obvious advantages. For the neighborhood approach it is to be said that—

1. It takes the child exactly where it finds him, dealing with his actual and immediate environment and thus avoiding the difficulties of creating an imaginary environment as a theater for his experimental work.

2. In the progress of the work the reference is constantly to near-at-hand processes which are to be seen in the large by the children individually and in class excursions.

3. This constant combining of productive work with observation will develop a habit of attention to the facts of his environment and will be the quickest and most direct means of increasing his appreciation of its activities.

For the evolutionary approach it is to be said that—

1. The child meets the industry reduced to its lowest terms and deals in the first place with its bare essentials, thus avoiding the confusion likely to accompany study of the complicated modern processes.

2. Thus simplified, the reproducing of an industry demands reinvention by the pupils of the successive improvements in the processes—effort more original and more educative than mere observation and imitation of processes seen around him.

3. It involves a grounding in the elements of industrial history which will not only furnish an important background for the appreciation of modern industry but also serves well as a basis for the interpretation of other lines of historical work.

Most current practice could be shown to combine these two plans, at least in some measure, so that the question is really one of relative emphasis. It is recognized that the very beginning must be with the immediate environment, and also that at some point attention must be given to stages of development which have preceded. Some, however, hold that the child on leaving the kindergarten should be sufficiently prepared for the transition backward; others would postpone it until three or four years later. Some again advise going back to the cave-dweller, and others no farther than the colonial period. All these variations need to be much more fully tested before a course of study at all authoritative in these respects may be offered. In Appendix A will be found more specific suggestions for courses of study realizing some of these possibilities.

THE GRAMMAR GRADES

The final aim in the study of past stages of industry is of course to prepare for the fullest appreciation of those of the present. Children twelve to fourteen years of age are entering the stage of analytical and discriminating interest in the social life about them. The daily paper receives attention, and current events are discussed. The group game with its demands for organization is much in evidence. Free constructive work tends to concern itself with articles for actual use or with the building of mechanical models very closely imita-

tive of the originals, and embodying all of their more fundamental mechanical problems. The impulse toward reality repudiates the toy play and doll play of previous years and also, in many cases, feeds the impulse to leave school and get to work. The whole situation makes strong demand for an intensive study of present industrial methods and practices.

This situation, in the view of a majority of the committee, demands sex-differentiation of work at this point: for boys, toward the larger industries; and for girls, toward the household arts. All admit important social-ethical values in giving to either sex a clear appreciation of the nature and requirements of the work done by the other. But now that the work of the average pupil is beginning to have significances to him thru a recognized relation to his own future, it becomes difficult to secure a feeling of reality in connection with the work of the opposite sex. Further, at least for the large majority who will have no secondary education with its opportunity to specialize, it is probable that the time would be better spent in broadening the pupils' view of their own distinctive fields.

Assuming this separation then, there is still much difference of opinion regarding the aim and purpose of each type of work. The question of vocational education in the elementary school is one much under discussion at the present time, and its advocacy is calling out emphatic protests against departure from the more general aims which have until now obtained in the elementary curriculum.

Upon this question the committee would submit the following theses:

1. Vocational education, if defined in the narrow sense as training for efficiency in some one specific occupation or industry, is not appropriate to the twelve- to fourteen-year period. Given at so early an age it could not avail either to increase appreciably the pupils' earning capacity or to shorten the period of apprenticeship. Further it would presuppose choice of vocation, which clearly should be delayed until later, in as many cases as possible.

2. It is entirely practicable, within this period and within the limitations of the elementary school, to give such notions of leading industries as shall be of large assistance toward the proper *selection* of a vocation, or in the case of those destined for high school and college, toward the proper *selection* of a higher school.

3. Whether precedence be given to this semi-vocational aim or to a more distinctively cultured one, i.e., general appreciation of the pupil's social-industrial environment, the subject-matter and the methods demanded will be much the same for pupils of this age, and the practical suggestions later to be offered will be equally appropriate.

The cultural values of such work are clearly of importance to all classes of pupils. The boy destined for a profession needs experience and knowledge that will make him appreciate the factors of industrial life. The one destined for a highly specialized industry ought to have such acquaintance with other types as will show him his own in a proper perspective. At the same time, work and study that are well adapted to give this acquaintance can hardly fail to be of material assistance in the *choosing of an occupation.*

It is doubtful whether this latter service and the need for it is fully appreciated at present. The situation may be stated briefly as follows: a large

majority leave school at about fourteen years of age, and of these again a large majority are certainly to earn a living with their hands. Ordinarily the school has emphasized the commercial side of life in a way to send them out with a strong bias in its favor. Few have any opportunity even to observe the various types of industrial work; so that the selection of an industrial occupation, as shown by the report of the Massachusetts Commission, is very largely a matter of chance. The desirable trades have a long apprenticeship term, are not available before the age of sixteen or seventeen years and have an initial wage lower than that of the many juvenile employments. When the boy reaches this age he is naturally reluctant to accept the reduction in wages, but even if he has the foresight to accept this sacrifice, his work of the previous two years, whether in office or factory, has neither trained him for more skilled work nor has it in any noticeable degree clarified his ideas regarding the types of work for which he is adapted. His school work in manual training, to be sure, may have given him some notions about his suitability for woodworking trades, which is valuable so far as it goes; but these trades now include no more than a tenth of the more desirable openings, and even tho he has proved an entire failure at cabinet work, he may yet have in him the making of a good plumber, foundryman, electrician, or even machinist—the requirements of each being so fundamentally different. Industry has now become so varied that success or failure in any one line offers little evidence regarding one's probable success in others. Thus all the factors in the situation conspire to bring him into the ranks of the casual, rather than of skilled labor. Any other outcome will be due to happy chance or to exceptional foresight and determination on his own part or that of his parents.

Three general methods of attack are available at this point:

1. That of the intermediate industrial school. This would offer a curriculum devoted primarily to the industries and their processes, with the academic work closely related to these. It would be open to pupils from fourteen to sixteen years of age and should do much toward making these "wasted years" subserve educational ends.

2. A readjustment of the present manual-training courses in such ways as to give more varied industrial knowledge and industrial experience.

3. That of the special industrial class within the elementary school. This would require a much larger time-allowance for construction work; permitting a more intensive industrial experience for the pupils specially in need of such opportunity. It would serve in short as a substitute for the intermediate industrial school in localities where the establishment of such a school is not found practicable.

The first of these three topics is treated at length in another chapter of this report. The second and third are the subjects to be considered respectively in the two following sections.

INDUSTRIES IN THE MANUAL-TRAINING COURSE

The limitations of the school present serious obstacles to this type of work, if undertaken in a broad way. Some discussions of the various methods of treatment may, therefore, best precede that of the appropriate industries for

study. Three general modes of treatment may be distinguished, the first at least, that of discussion being always available. It should of course include constant use of photographs, illustrations in trade papers and popular magazines, trade catalogs, etc. Attention should also be given to its social and economic aspects; wages, hours, seasonal fluctuations, length of apprenticeship, etc. Much may be accomplished by this means alone, assuming adequate preparation by the teacher, in bringing to the pupils a conception of the meaning and methods of a given industry.

The second method is that of the class excursion, nearly always available in the case of local industries, despite popular opinion to the contrary. It has been the experience of many that practically all manufacturers will, if the matter is clearly set before them, permit a properly conducted class excursion thru their works, and that many of them come to take a strong interest in the plan. The value of such an excursion depends very largely upon the discussion and study which has preceded it. If this has been neglected the pupils will often become confused by the complexity of the plant and the trip degenerate into a mere vague gazing about. But properly prepared for, it becomes a means of fixing in a most vivid way the fundamentals of the process and of acquiring a very much more rounded and complete conception of the industry than could be secured in any other way.

The third mode of approach is the reproduction of the industry or some of its more fundamental processes by the pupils themselves. This, while not always practicable is a most desirable conclusion of the study. Actual feeling of the materials will produce many phases of appreciation, which mere observation fails to develop. It is this treatment also which will count for most in the discovery of special interests or aptitudes in individual pupils, and will, probably, have the most direct influence upon their choice of vocation. It is to be assumed that the processes reproduced will be greatly simplified, that the product will usually be upon a much reduced scale, and that much of the workmanship will be crude. It is sufficient that the pupils view it with a sense of achievement and that its processes reproduce those of the industry in a typical rather than a merely imitative way. In studying carpentry, for example, the framing of a model house from laths might be called a fairly typical treatment, while the making of a cardboard house would be a purely imitative treatment, having little value outside of the primary grades. The imitation, in other words, must be in structure, not simply in appearance.

SELECTION OF INDUSTRIES

It is clear that of the many industries which demand attention comparatively few can be treated in this fashion within the available time, so that selection becomes a difficult and important matter. Five considerations which bear upon this choice may be noted in the order of their importance:

1. General importance and extent of the industry.
2. Local importance.

3. Dependence upon a distinct and comparatively high type of industrial ability.
4. Desirability as an occupation.
5. Practicability of reproducing its processes at school.

The relative importance of local industries may be ascertained from the *U. S. Census Report*, which shows, for each city, the number of persons employed in the various lines of work. (Vol. "Occupations," pp. 550 ff.) The rank of the more prominent ones is well shown for the country as a whole in the chapter of the present report upon intermediate industrial schools (pp. 59-80). The grouping of industries there indicated is suggestive for our present purpose; but the number of topics indicated is much larger than could be treated within the elementary school, at least in the intensive fashion which we are at present considering. The number of topics must unquestionably be reduced to six or eight. This may, if necessary, be done by the outright selection of the most prominent and the most individual, a plan which would not be wholly discredited by the fact that these industries represent only a minority of the industrial occupations. However, the effort should be made to recognize any similarities which exist and, by the selection of type industries and of those most divergent in nature, to make the scope of the work as broad as possible. The classification just referred to is suggestive in this regard but still contains too many topics for treatment by the elementary school.

The following rearrangement of groups may meet this situation in a degree:

Group	Trade	Number of Males Employed
I. Building trades	Carpentry	600,000
	Woodworking	350,000
	Masonry, stoneworking and concrete construction	220,000
	Painting and glazing	270,000
	Plumbing and pipe-fitting	100,000
II. Metal and machine trades	Structural ironwork	100,000
	Foundry work	100,000
	Machine-shop work	280,000
	Blacksmithing	220,000
	Engineers and firemen	400,000
III. Machine-operating trades	Weaving of textiles	250,000
	Clothing manufacture	170,000
	Shoemaking and leather work	200,000
	Other metal working	80,000
IV. Electrical work		100,000
V. Printing		140,000
VI. Agriculture		9,000,000
VII. Mining		500,000

A classification so general must be far from satisfactory. Thus the building trades have very little in common on the purely technical side; plumbing, pipe-fitting, and structural ironwork are intermediate between Groups I and II and about as appropriate to one as the other; engineers and firemen and many printers belong technically to Group III, etc. On the other hand, it would seem that relations among the building trades are so intimate that any serious study of one would lead to measurably clearer notions about others; that the structural iron-worker is, on the whole, more nearly related to the machinist

than to the builder; and that engine operators also require much of the machinist's equipment.

Upon the basis of the five considerations already mentioned, each "group" would seem entitled to a place in the curriculum and in the order named, barring special local conditions. Each should be studied by means of at least one of the subordinate industries; more, if possible. Each, however, of the first four at least is held to outrank any one of the included trades; e.g., the course of study should not undertake a second or third trade under the building or machine industries until it has assigned some place to electrical work.

The building-trades group being so populous, and representing so dominant a proportion of skilled labor, seems clearly entitled to first place, and the large number of woodworkers goes far toward justifying the usual manual-training course from the present point of view. If but one industry is to be dealt with, clearly this is the one. Yet it is doubtless in some senses a waning industry and it would not be surprising if the approaching census reduces its preponderance materially.

In Group II the machinist certainly has first place, not because of the plurality indicated, but because his work and his knowledge are fundamental to so many other industries. Technically he is a builder of machines; but this involves some ability as a metal-worker combined with some understanding of machinery in general, its adjustment, alteration, and repair. Men with such equipment, whether nominally machinists or not, are to be found in any type of industrial establishment and are the ones whose special talents gain the promptest recognition and advancement. Two aims should characterize the school work at this point: (1) to give the general notions of the processes in the building of machinery; (2) to study and, so far as practicable, to construct various mechanisms with a view to the development of mechanical ingenuity. The taking-apart and reassembling of any mechanism, the construction of any mechanical project or moving toy and experimenting with various adjustments to secure its proper operation—all of these may be expected to increase the pupil's understanding of machinery and to disclose and develop any latent mechanical talent which he may possess.

Group III, that of machine-handling, is seen to consist largely of what may be called semi-skilled industries, which command a wage distinctly better than that of the common laborer but below that of the journeyman mechanic. The ability here required is ordinarily that of deftness or speed in the operating of a machine rather than any thoro understanding of the machine itself.

The question of what special types of education, if any, will be advantageous to the very large number of pupils who are destined for this group, is doubtless the most difficult one of all.

What may be done for the person who is confined to a single process in an industry or a small part of a process? Clearly a perspective view of the industry, from the sources of its raw materials to the social functions of its product,

is one of the first services required, and this should doubtless be the foremost aim of any attempt to deal with these industries. Further, any work leading to the better understanding of machinery, such as has been suggested for the previous group, will have value from two viewpoints: (1) It will have a selective influence, encouraging the more capable operatives to rise above the rank of operative. (2) For the operatives who are to remain such, this would hardly have the same practical value; but the ability of these to understand and appreciate the mechanism of their machines ought surely to mean a much more intelligent interest in their work and much more satisfaction in its conduct. It would appear then that the treatment of this group of industries must be very largely cultural in its purpose.

The electrical industries while employing fewer men are considered as a separate group for several reasons. Electricity is a factor which no cultural survey of modern industry, no matter how elementary, can possibly ignore, and on the vocational side two special factors require its emphasis : (*a*) It is constantly becoming a more significant factor in the fields of the leading industries, so that some acquaintance with its theory and applications is of practical value to many times the number listed in the census as regular electricians. (*b*) It demands a unique type of ability both mental and manual—an ability frequently discovered in pupils whose progress in many other lines is unsatisfactory. This is one of the industries in which study by actual reproduction is most available, since the construction, alteration, and operation of simple bells, motors, telegraph sounders, etc., is fully practicable at small expense in the usual school shop, and is a type of work well calculated to develop a general conception of the nature and application of electricity.

Brief reference may be made to the remaining groups bracketed above because of special difficulties involved in centering the school constructive work upon them.

Printing, like electrical work, is classed as a group rather than as a trade because of its marked individuality and the fact that it has so little in common with other industries. It is of the last three the most feasible in the school, altho requiring special equipment and also, possibly, smaller classes, tho further experiment is necessary to prove this fully. The school can of course make use of a great variety of printed matter and this is apparently the one point at which industrial work may be carried on in continuous service of the school as a whole, and one which should therefore have special value as a socializing influence. That it could be in so large a sense a regular industrial enterprise, conducted by the school, should give a peculiar sense of reality to the whole process and particularly to such considerations of cost of supplies and economy of materials, which in the usual types of constructive work must be developed in a somewhat artificial way if at more detail.

That agriculture occupies nine million men shows in how great a degree this is still a farming nation. Unquestionably the city school as well as the country school must find means for its presentation, but it is usually considered

apart from the lines of industry already discussed and space does not permit its detailed consideration here.

Mining is also seen to be of high rank numerically and it is in many aspects worthy of a place as a skilled industry, but it is so highly localized and so difficult of reproduction in the school in any typical aspects that it would not seem available for treatment except in the most general way.

In the treatment of any of these industries it is clear that the school work should aim consciously at developing a comprehensive view of the industry as a whole, and some appreciation of the value of this may be counted on from the pupils, tho continuous attention to these aspects cannot be expected from children of this age. Almost any manipulation of the materials involved will be of assistance here, but very few industries have sufficient fascination in their mere processes to secure the most desirable quality of attention and interest from the pupils. This is ordinarily dependent upon the securing of a product embodying in a vivid, concrete way the knowledge and technique that has been acquired; such product to be a unity, a project complete in itself, not simply a series of exercises or experiments. Thus in the case of carpentry, the framing of a model house would be appropriate; in the case of concrete construction the erection of a model building or possibly the laying of some sidewalk on the school grounds. If in addition the product is usable as a toy or otherwise, so much the better; e. g., in studying the strength of materials a bridge would be good but a multiplane kite possibly better. Similarly in electricity a motor would be good, but an electric motor boat better.

This whole field, however, is one in which the school is just beginning to feel its way, and until the results of much further experimentation are available, details of method may be suggested only in the most tentative way. The one certainty is that the content of the industrial arts is such as to demand a much more serious exploitation on the part of the elementary school, and that fuller knowledge of this content will be an important influence toward the better after-adjustment of pupils to their industrial environment.

(Appendix B contains more detailed suggestions regarding work of this type.)

SPECIAL INDUSTRIAL CLASSES

However, even with the fullest development of the industrial element in the regular course, the educational needs of a large percentage of the pupils will not be met. This is especially true in the cases of those pupils who do not readily respond to our usual methods and who, therefore, do not progress regularly from grade to grade.

These pupils leaving school at fourteen, especially when they leave from the lower grades, are unable to secure occupation which promises regular and satisfactory advancement. These workers, entering as they do into unskilled or into highly specialized industries where the subdivision of processes is minute, require for their own well-being and for the benefit of their employers a general rather than a specific industrial training.

For these reasons it is extremely desirable to introduce special industrial classes in connection with the regular work of the last two or three years of the elementary school, that will appeal directly to the above groups of children and occupy four or five hours a week.

In order to make the best adjustment and to secure the best results from such classes, it will be necessary to institute a variety of experiments—experiments that may be as varied as the size of the school system permits. These experiments should be governed to a considerable extent by the varying industrial conditions prevailing in the different localities and should connect with the other work of the school at as many different points as possible.

Such special classes give promise of doing much to solve the problem of the backward or non-progressive pupil, the problem which conscientious and thoughtful teachers have ever taken seriously to heart.

Another type of special class might deal even more specifically with individual pupils just on the point of leaving school, occupying perhaps two or more of the afternoon school sessions per week. Pupils taking this course would continue for the remainder of the time in the regular school classes, the work there being so arranged that they would drop certain subjects entirely rather than parts of different subjects. The more fundamental subjects would naturally be confined to the forenoon and in these no distinction between regular and special pupils would be required.

Admission to such a class might be limited to pupils fourteen years of age, or those on whom the school has no further legal hold. It would obviously interfere with entrance to high school, and should presumably be placed before the pupils as an inadequate substitute for a secondary course, none being admitted except upon evidence of inability to afford or profit by the conventional high-school course and upon written consent of parents.

The work of such a class might deal with a small or a larger number of industries according to local conditions and requirements. In either case, however, with such a time-allowance it could clearly be much more thoro, systematic, and technical than that of the regular manual-training courses. It might well be expected not only to give a semi-vocational preparation to a considerable number of the more mechanically minded boys but also to lengthen materially the terms of their school life—in which case both the industrial and the academic work secured would be for the pupil just so much clear gain.

FURTHER SUGGESTIONS REGARDING COURSE OF STUDY

It has not been found possible to offer a complete course of study representing any phase of the work which has been discussed. The following pages therefore deal with isolated topics only with a view of illustrating certain types of treatment available for a study of the industries.

In order to make this material as practical as possible in its suggestion, it

is confined for the most part to an account of work which has had actual trial within the schoolroom. As has been suggested earlier, there are various lines of constructive work which deserve place within the school from the viewpoint of the child's immediate interests and requirements, but are without direct bearing upon the industries. These are omitted here as lying outside the scope of the present discussion.

A. STUDIES OF INDUSTRIES IN THE PRIMARY GRADES

1. THE EVOLUTIONARY APPROACH

First Example—Study of the Textile Industry[1]

(Second Year, Horace Mann School, New York)

The work centers about the main lines of thought during the year, in connection with the study of social occupations as they are found among the pastoral and early agricultural peoples. As these types represent very simple conditions, the activities are still largely those involved in the securing of food, clothing, and shelter. The study of the first grade forms a basis for comparison, and aids in the solution of similar problems under new conditions.

In the pastoral stage the domestication of animals, especially sheep, determined very largely the life and occupations of the people, and greatly enriched their sources of supply, particularly that of clothing. The child brings with him into the second grade a vivid picture of the dress of the primitive hunter. He has learned that he used woven grasses, leaves, and skins for clothing. He remembers that the skin garments were very hard to prepare, and that the cloth of woven grass and rushes was not strong nor soft, nor close and fine like his own clothing.

The children are now given pieces of silk, cotton, and woolen materials, and some raw wool from a fleece. By the sense of touch and examination of the raveled threads they decide upon the woolen cloth as being of the same material as the fleece. They are asked to find out which articles of their clothing are made of wool, at what season we wear wool, and to name other things made of wool. Having traced the woolen materials back to the wool, they are ready for the study of the sheep. They are then taken to Central Park, where they see the sheep in flocks. They notice the shape of the body, head, legs, and tail; his manner of moving and feeding, and his way of giving alarm. Memory sketches are made on the return to the classroom. In the lesson following, a fleece is shown and by examination the children notice where the wool is thickest and softest, where finest, and where coarsest. Different methods of shearing are discussed, and the old way compared with the new. Pictures help very much. Each child cuts a handful of wool from the fleece and examines it very carefully. One child discovers that it feels oily, another that it is not white, another that it is full of burrs and sticks. It is decided that it must be cleaned before it will be ready for spinning. They try cleaning by hand, but this method is decided to be too slow. Some one suggests washing. While talking, some of the children try to twist the fibers with their fingers and usually succeed in producing some short, uneven threads. This gives them a chance to imagine how the pastoral women must have started their spinning. Then they try to use their pencils to wind the thread. and suggest that sticks of some kind might have been used long ago for this. Gradually by getting used to the motion they are able to keep the pencil with the threads whirling, and the idea of the spindle is evolved. These are made of wood by the children and they spin a short length of the coarse wool.

As they decide to wash the wool, tubs of warm water and soap are brought to the classroom. They discover that much energy makes the wool mat together. They also discover that the oily feeling is gone, and that it does not spin as easily. The question now

[1] *Teachers College Record*, Vol. VII, pp. 344–47.

arises as to the best manner of getting the matted condition smoothed out, and finally combing is suggested. It is found that combing with the fingers is not a success, and that even the ordinary comb does not seem strong enough, so it is decided to make special carding combs. These are made of wood 4″×9″. The children use rulers, knives, hammers, and nails in construction. Four rows of nails about ¼″ apart complete the comb.

The children tried a few experiments with dyeing in their Indian work, so they are asked to suggest vegetables, berries, or roots that might give color to the wool. Such things as grapes, tomatoes, beets, onions, squash, poke berries, and blue-berries are usually tried by the children. They cook the vegetables and crush the berries, and dip the wool only to find that most of the colors will not hold. Out of all the materials tried they find only a few, such as grape skins and tomatoes, that are satisfactory in giving a fairly good and fast color.

In the first grade the children had woven grasses on a rectangular frame making use only of their fingers. They now construct a somewhat similar frame and study various methods of securing the finer woven warp thread to the two end-pieces. For the woof they use a manufactured yarn of different colors—blue, brown, black, and white. With this fine material the great length to be pulled thru each time proves very awkward, and discussion of some way to relieve the difficulty develops the idea of winding the entire weaving thread on a small stick, thus producing a primitive shuttle. After some further work the amount of time and labor required to raise and lower the individual warp threads becomes very evident, and the advantage of some means by which a whole set of alternate threads may be raised or lowered at one time is apparent. After much study and after some suggestions and experiments several forms of string heddles are developed and put into use.

It is decided that the rugs to be made will be more attractive if several colors are used, and a study ensues as to the easiest and best way to arrange the different colors. Stripes are decided upon, and a few suggestions are placed on the black-board, discussed, and compared. After this each child decides upon his color scheme, and draws a pattern for his rug, which he carefully follows in the weaving. As a result there is much originality displayed, and a great variety in the productions made. This work occupies the principal part of the first half-year, and in connection with it visits are made to the Natural History Museum, and to the Department of Domestic Art in Teachers College, where illustrations and demonstrations of the different processes are seen. The modern methods of carrying on these same processes are also touched upon. As there are no factories in the immediate neighborhood which can be visited, most of this work is illustrated by means of pictures enlightened by the experiences of children and teacher.

Second Example—Candle Making in the Third Year

(Francis W. Parker School, Chicago)

An illustration of how the study of an industry may be combined with the meeting of a present social need—in this case the making of candles for a Christmas tree.

The first thing to do was to choose the material of which the candles were to be made. Wax, paraffin, spermaceti, stearin, and tallow were shown to the children. Spermaceti and stearin were excluded on account of expense. To help in making a choice of paraffin, wax, or tallow, candles of each of these materials were burned. The paraffin flame was the largest, and that material was the one chosen.

How to make the candles was the next question. One of the boys said his father had read to him of boys making candles in bamboo canes. This idea was quickly taken up by the children and modified in various ways.

The children were asked to work out their plans at home. The result was candles made in five different ways.

One was made in a paper mold. A piece of heavy paper had been wrapped around the handle of a duster and the edges of the paper glued. Darning-cotton was used as a wick

and the tube stood upright in a low tin can, being held in place by paraffin that had solidified around the tube. Paraffin was poured into the mold—the mold, of course, having to be broken to release the candle. Another was made in a bottle, and another in a wooden mold.

A wooden mold was made from a block 7×2×2. A half-inch hole was made lengthwise, almost thru the block. The block was split, and the two pieces fastened together with hinges and a clasp. (Help had been given in putting on the hinges and clasp.) A piece of string was used for the wick.

Another candle was made by dipping a piece of string in and out of wax repeatedly; another, by rolling paraffin, partly warm, around a string.

We liked the size and appearance of the dipped candle, and thought, too, that it was the easiest of the five ways shown for making candles; so it was decided to make the Christmas-tree candles by dipping.

Five pounds of paraffin were melted. Three wicks were tied to each of two sticks, nails being tied to the wicks to make them sink easily into the paraffin. These nails were cut off as soon as the paraffin stiffened the wick. Two dozen candles were made in this way.

The children thought they would like to make candles for home, so we planned to make larger candles, and candle-sticks of clay to fit them, as Valentines or Easter gifts.

The children were shown some tin candle molds. These they thought would make nice candles of just the right size. To the paraffin for these candles was added some stearin to make them harder. A candle made of paraffin alone will bend in a warm room.

The children drew plans for their candlesticks. They were then shown some simple candlesticks of good design, and their second plans were better.

Many wished that the candles might be colored. Green is the only color we have managed successfully. This is made by dissolving green and yellow aniline dye in stearin.

The candlesticks for the green candles were glazed green; for the white candles blue.

2. THE NEIGHBORHOOD APPROACH TO INDUSTRY

Third Example

(Plan of work in the University of Missouri, Teachers College)[1]

Acting in accordance with this view the Elementary School at the University of Missouri is using the following curriculum: In each of the first three years the playing of wholesome games, the observation of anything interesting and profitable to children, and the making of things useful and ornamental. In the fourth year, local industries, as found in the blacksmith shop, the post-office the laundry, the grocery store, the meat-market, the dairy, the shoe factory, the farm. In the fifth and sixth years, industries at large, such as fishing, lumbering, mining, manufacturing, transportation, government. In the seventh year, the development of important industries, especially within the United States.

In pursuance of such a course the three R's—language, drawing, geography—contribute what they can. A bit of handwork in the making of a calendar by the first grade just before Christmas is much enriched by a personal account of the making which is read by the pupils. Further, it is the occasion for writing, number-work, artistic decoration, language. The simple game of tossing bean-bags into concentric circles on the floor is a wholesome occupation and greatly ennobles the social instincts. The game itself is much enriched by the oral discussion on how to play, by the reading of a personal account of the game, by the number-work involved in keeping score, by drawings illustrating the game.

Further illustrations would show all the formal studies in the first three years wholly

[1] From Fundamentals in the Elementary School Curriculum, by J. L. Merriam, *Ed. Rev.*, April, 1909, pp. 396–97.

subservient to real activities in wholesome games, profitable observation, and useful handwork.

In the fourth grade a study of a local dairy—occupying ten days—includes the following: (1) an excursion of three hours, (2) reading from twenty references, (3) thirteen compositions amounting to twenty pages, which include (4) forty problems with additional drill exercises involving the four fundamental processes, fractions, United States money, liquid and avoirdupois measurements, (5) chemical experiments in the souring of milk, (6) handwork in the making of butter and cottage cheese, (7) science work in the study of various kinds of cows and the care of them, (8) sentence-structure to make clear their own compositions, and (9) seventy-four words liable to be misspelled. All these various "studies" serve as means in the study of the larger problem, that of the dairy as a local industry. This is a type of the work done by the fourth grade in one year's work on local industries.

In the fifth grade the lumber industry is given twenty-five days. It includes the following work: (1) four excursions to a forest, a sawmill, a planing-mill, a lumber-yard; (2) readings from eighty references, (3) eighteen compositions covering forty-two large-size pages, (4) twenty-three concrete problems, involving the four fundamental processes, square measure, board measure (in both this country and foreign countries), common fractions, decimals, percentage, and considerable drill exercise in all of these topics; (5) geography of almost every country on the globe, with the maps carefully drawn; (6) science work on trees, lumber, other forest products, sawmills, etc.; (7) drawing in twenty-two illustrations; (8) literature in both poetry and prose fiction.

It needs but a little study of the manufacture of cotton cloth, for example, in the sixth grade, to call for much arithmetical work, geographical data, studies in science, drawing, reading, etc.

Fourth Example—Garden Work

(Francis W. Parker School, Chicago)

The garden of the Francis W. Parker School occupies a plot of ground one hundred and twenty-seven by fifty feet, some fifty feet east of the building. The area is well adapted for the purpose, being open on all sides and shaded only at the southeast corner by some tall cottonwood trees.

Fortunately for the drainage of the plot, the subsoil consists of coarse sand and gravel, which was placed there when the excavation for the school building was made. Upon this foundation a heavy layer of properly fertilized loam was placed. Each succeeding year the garden has been plowed and fertilized. This has been the cause of one difficulty. The plowing excluded from our available plants all perennials. Each year the garden was planned anew without "an old year's brand to light the new." That deprived the gardeners of many experiences which are absolutely necessary in the growth of those who are to "love the green things growing."

According to the plan followed for the first three years, every grade planted a bed of some grain or vegetable for the common use of the school. A second bed was assigned to each grade, to be divided into individual plots. It is evident that under this plan the garden presented a motley appearance, since every child planted in his bed whatever he chose, irrespective of what was in his neighbor's bed. Sometimes several kinds of vegetables and flowers were planted in a bed two by three feet. Tall plants shaded and interfered with the growth of low ones; vines overran and crowded out other crops. The effect of the whole was not beautiful. The crop was limited in quantity and poor in quality. The care of the garden grew into a burden rather than a pleasant task. What is more important, the great opportunities which garden work offers toward unifying the school and enriching the social life were not realized.

After three years of such experience the children were ready to combine and organize their efforts, and last year, with the help of the teachers, a new plan was made, the teachers

keeping in mind that the garden should be beautiful; that each child should be allowed to choose what he would plant; that he should have a feeling of ownership about his garden bed and the crop he would harvest; that all plants should be placed in the environment best suited to them; and that every part of every bed should be easily accessible to the smallest child.

First, every member of the school wrote a paper indicating in order of preference his choice of vegetables and flowers to be planted in the garden. The accompanying lists include all plants mentioned:

VEGETABLES

Lettuce	Turnips	Beans	Cotton
Radishes	Carrots	Peas	Watermelon
Onions	Spinach	Watercress	Pumpkin
Potatoes	Parsley	Celery	Cucumbers
Tomatoes	Corn	Beets	Muskmelons
Cabbage	Popcorn	Peanuts	

FLOWERS

Pansies	Violets	Geraniums	Morning-glory
Sweet Peas	Mignonette	Sweet Williams	Nasturtiums
Cosmos	Bleeding Heart	Heliotrope	Lady Slipper
Asters	Forget-me-nots	Hollyhocks	Candytuft
Bachelor Buttons	Moss Roses	Daisies	Coreopsis
Sweet Alyssum	Roses	Lilies of the Valley	Easter Lilies

To this list were added names which the teachers suggested of plants which would be of service in the science, industrial, and art work of the school and which would add new acquaintances to the children's flower friends:

VEGETABLES

Wheat	Dill	Lavender	Plum Tomatoes
Sugar beets	Sage	Kale	Asparagus
Flax	Bohnenkraut	Pepper	Gourds
Kohlrabi			

FLOWERS

Nicotine	Stock	Marigolds	Celosias
Caladium	Wallflower	Amaranthus	Canterbury Bells
Four o'clocks	Salvia	Scarlet Runner	Cypress Vine
Ageratum	Ornamental Pepper	Sunflowers	Zinnias

Committees were formed, composed in each case of children who had chosen the same plants. The first two choices of every child were adopted. If, as in several cases, these committees were too small, the third, fourth, or sometimes fifth choice of a child was considered and sometimes volunteers were called for.

After these groups had been formed, a detailed outline of the work necessary to make the garden a success was as follows:

a) Making of the general plan.

b) Drawing of a plan for each teacher, indicating the parts of the garden for which her pupils were responsible.

c) Writing lists of names of children to act on various committees, these lists to be posted in the hallway.

d) Making individual seed envelopes.

e) Labeling same with name of seed, name of child, and grade.

f) Apportioning seed.

g) Writing and attaching to each envelope clear and concise directions for sowing the seed.

h) Surveying the garden.

i) Digging-out of the paths (marking beds with string has not been satisfactory).

j) Making garden stakes and labeling same to correspond with envelopes.

k) Making large stakes with small signboards attached, to aid in readily finding the beds.

l) Placing of stakes in garden.

m) Making of a hotbed.

This list was presented to the school and the various kinds of work were either chosen by or assigned to the grades where they were best adapted. For instance, the plans were drawn by the seventh grade, envelopes made by the third grade, and directions for planting formulated by the fifth grade.

The making of the plan was the most responsible piece of work. It required consideration of many phases, most important among which were beauty, proper shapes of beds for convenience in planting, relative sizes of beds and their positions as to best conditions of light and moisture, and numbers of children acting on the various committees. For example, the favorite vegetable was lettuce. The amount of lettuce seed likely to be used was calculated, and this, with the size of the committee, was considered in determining the dimensions of the lettuce bed. In some cases an entire bed was assigned to one class, for the special study of some crop necessary to the work in that particular grade. For instance, the sixth grade took charge of sugar beets, the fourth grade of flax, the fifth grade of wheat, and the first grade of popcorn.

The work mentioned under *b* was important. From these plans every teacher knew what was to be planted in every nook, and by the colored spots knew at a glance where she might expect to see some of her pupils working. The names of the children did not appear on the plans, because the teacher in charge had a plan which included the names and directed the placing of the individual stakes. The beds were marked off by means of a board, the edge of which was pressed into the ground. The depression made was filled with sand, which stayed in place long enough to serve the purpose.

The flower garden was more difficult to plant, because the rows overlapped, and the general arrangement was more complicated. Here the beginning and end of every row was indicated by a stake, the two stakes being labeled alike and facing one another.

With this plan every child had all the information necessary to make him independent in locating his bed and doing his work. All stakes were marked with paint or ink to make them proof against the rain. A red chalk mark was the means by which the children indicated that a bed had been planted.

Formulating directions for planting was an interesting piece of work. The motive of making all the directions so simple and clear that they might be read and understood by a child in the first grade made a demand for good concise English which the fifth-grade child could thoroly appreciate. Directions poorly stated might mean failure, disappointment, and a mar to beauty.

The interest shown in making the hotbed is worthy of mention. The science work on decomposition, generation of heat, plant food, and germination was done with zest. The hotbed was so generous in its productiveness that there was a good supply of plants to give to all children who wished to start home gardens. Many children made small gardens along the edges outside of the big garden. All summer good reports came of tomato and cabbage crops, fine specimens of flowers, etc.

After the planting was accomplished a careful record was kept in writing and painting of the date of planting and the date of germination and appearance of plants in the first stages of growth, and the changes from week to week. This record was made in order to enable us another year to distinguish the young plants from the young weeds. Many

mistakes in weeding were made this year. In some cases the children were temporarily discouraged because they expected the plants to appear too soon. One little girl who planted ageratum waited five weeks to see signs of growth. Just as school closed she found a few minute leaves. Four weeks later the plants were one foot high. This fall she supplied every classroom with blossoms for several weeks. Another year the data recorded will prevent this discouragement.

The school garden was a great benefit to the work in the art department, as it furnished abundant material and afforded the opportunity for continual use of flowers and vegetables in the study of elementary composition.

Some of the sources of special pleasure to the children were: the asparagus hedge planted to separate the vegetable garden from the flower garden, this hedge having been planted in May and started from three-year-old roots; the bright red and yellow celosias, some of which grew four feet tall and waved plume-like on either edge of the long center path of the vegetable garden; the muskmelons, which grew so thick and luscious that from a bed of twenty-four by nine feet were harvested over forty melons; the watermelons, pumpkins, gourds, and green peppers; the celery bed, which supplied the school for seven weeks; the caladiums, which grew from bulbs two inches in diameter to plants five feet tall, with leaves two and one-half feet long. Last, but not least, the garden gate, and the benches which the small boys made from an old tree trunk which they chopped down, should surely be mentioned, for they would appear in any child's list of the special attractions of the garden.

One grade took complete charge of the grounds in front of the building. There they planted all favorite flowers, making every effort to have a variety great enough to insure blossoming plants thruout the seasons. Some children made frequent visits to the garden during the summer. They weeded and watered at those times, but coming irregularly could not give the garden proper care. The watering and weeding during the vacation time was kindly done by the man left in charge of the building, and by other interested people. Some children expressed a commercial instinct by selling vegetables to their parents and to other children. They agreed to put the income into a common bank, the money to be used in buying some of the seeds for next year's garden. The treasury was also increased by funds coming from a neighboring grocer, who bought at regular market prices what produce was not given away.

In August Canterbury bells, Sweet William, and hollyhocks were planted. The young plants have a good start, and there are enough hollyhocks to plant along the entire front of the building.

This fall the flower garden was cleaned and spaded. A large number of bulbs were planted and by this means the children may enjoy the garden for many weeks before June, while other years they have had few blossoms before the close of school. At present many children are nursing geranium cuttings and old stocks planted in window boxes. The pepper plants are adorning several classrooms. All are waiting for the spring when we shall make a much larger hotbed and supply the home gardens and perhaps some children in other schools.

Aside from the definite knowledge gained and its all-around educative value, if the work in our school garden adds a few names to the list of those who will always love and make gardens, it would seem that it has been well worth the time and labor expended upon it.

Fifth Example—A Study of Transportation. Third Grade[1]

(Francis W. Parker School, Chicago)

The following reports were given by the children of the third grade at morning exercises. They are the outgrowth of a year's work in the study of the history of Chicago, and illustrate one phase of the development of transportation.

[1] From the *Elementary School Teacher*, January, 1905.

Last year the third grade studied about early Chicago, and the different ways of traveling in the early days. We decided to make a train of cars in the sloyd shop. We chose the cars because they are made just outside of the city, and because Chicago is such a very large railroad center, and because going by train is the most rapid way of traveling.

The reason we did not make a passenger train is because there is so much shipping and commerce going on in the city, and the passenger cars are too hard to make.

We also made plans for the truck, the wheels, and the track. We thought it would be nice to give the cars to the kindergarten children.

JOSEPHINE PALMER

Two people worked on a car. If each child made one car, there would be too many cars, and we would not get them finished. One worked at the sides and floor; the other one made the ends, the top, and the running-board. We put two coats of paint on them. One child put on one coat of paint, and the other put on the last coat. We grooved the sides and ends with a carving tool to make it look like boards running up and down. We used large staple tacks for the steps. We named each car and planned the lettering. We called the cars the "F.W.P. Fast Freight."

MILDRED ZENOS

We did not go to the carshops to measure the cars, as we had all seen freight cars, and we had a good book with pictures and measurements given.

Each child used the book and selected the car he liked the best. I chose the coal car. It was 34 feet long. We decided upon the scale to use in making the cars. We first thought we would make them 1 inch to 1 foot, but 34 inches would make them too long. Then we thought that $\frac{1}{2}$ inch to 1 foot would be better.

HELEN STAUFFER

We wanted to know the capacity for our cars. We used inside measurements. The box car is $18\frac{1}{2}$ inches long, 4 inches wide, and 3 inches high. I made a drawing of the floor of the car. We used 1-inch cubes to see how many cubic inches there were in one layer. We found 74 cubic inches. In three layers there were 222 cubic inches.

I made a drawing of the floor of the coal car too. In the first layer there were $58\frac{1}{8}$ cubic inches. In two layers there were $116\frac{1}{4}$ cubic inches.

FRIEDA MAYNARD

How we made our wheels: We wanted to have iron wheels for our cars, but we could not make them. We used Frank's wooden model for casting wheels in lead because we wanted to know how they cast large wheels. We took two flasks and pounded molder's sand into one of the flasks, and set the wooden wheels half way in. Then we sprinkled dry sand on so that the molder's sand in the other flask wouldn't stick. Then we put the other flask on it and the pegs held it in place. We then took the two flasks apart and took the wooden model out. We made air holes in the flask on top with a hatpin and a larger hole to pour the melted lead in. We put the flasks together again and poured the lead in the hole. When cool we took the flask apart and this is the way the lead wheels looked. The reason there are these holes in them is because there were not enough air holes in the flasks and the melted lead couldn't push the air out.

DOROTHY WING

When we made the wheels we used the same scale that we did in making the cars, only we made the flange bigger. The reason we did this is because the little cars are not heavy enough to stay on the track.

I made a model of the wheels on the lathe.

FRANK PACKARD

Everybody in the third grade last year made a drawing for the truck for our cars, and we at last decided upon one. The truck is made of some metal. It fits on the bottom of the car and holds the wheels onto the car. We are going to screw our truck to the car so it can turn a little when going around curves. We did not plan to keep the side of the truck from hitting the wheels, and if it did the car could not move very easily, so we think we will put a washer between the truck and the wheels. The wheels are $\frac{3}{8}$ inch below the bottom of the car. We made them that way so the wheels will not hit the bottom of the car. We shall make the hole that we shall put the axle in larger than the axle, so it will have plenty of room to turn around.

LUCY SMITH

If we were to use these cars we would send the stock car west to the cattle ranches to be filled with cattle and bring it back to the Stock Yards to unload. The refrigerator cars we would send to the Stock Yards, fill with fresh meat, and ship to the East where the people need it most. The coal car we could send right down in Illinois and fill with coal to help carry on the great manufacturing in the city. The furniture car we could fill with furniture here and ship West, where the people need it most. The box car we could take to Minnesota to fill with grain, or it might be used for any common freight. The caboose is used for the people who work on the train and the men who look after the stock.

We went down to measure the kindergarten circle, and found it was sixteen feet in diameter. We found there was room just outside the circle for the track. It is to be made in sections so it can be stored away when not in use.

As we have done all we can on the cars, we have asked the big boys to help finish them, so the kindergarten children can use them very soon.

OWEN WHITE

There were many problems in arithmetic not suggested in the children's reports, such as finding the capacity in real cars, and finding the number of board feet and the cost of the lumber used in making cars.

B. STUDIES OF INDUSTRIES IN THE GRAMMAR GRADES

1. THE CERAMIC INDUSTRIES[1]

It is the purpose of pottery teaching not to develop a craft nor, primarily, skill, but to present for the first time in school life a complete view and knowledge of some one industry (ceramics), and to call attention to artistic excellence as something to be desired; in other words, to develop a high order of industrial sense, and this involves design. Objects to be modeled should in *every* case have a real use, and that use should be in mind to the last. They should be familiar objects and usually admit of a bit of decoration or decorative treatment. The following list will be suggestive:

Tiles (square, round, oblong, triangular) for flower-pots and teapots. Square tiles of various weights for paper weights. Incised, inlaid, and modeled decoration.

Shallow saucers and trays.

Bowls. These if well modeled are an addition to the tea or dining table. Incised or modeled decoration.

Ash-trays, match-holders.

Ink-wells, which may have space provided for pens.

Flower-pots. These furnish one of the best problems in fine proportions and reserved decorative treatment. Incised or modeled decoration.

Receptacles for flowers. The vase should be designed for characteristic kinds of flowers—those with long or short stems. Incised or modeled decoration, suitable color.

[1] From "A Course of Study in Manual Training," by C. L. Boone, *Manual Training Magazine*, December, 1908, February, 1909.

Fern-boxes. These are usually square but may be oblong like a miniature window-box. Each of the four sides offers a most tempting space for decoration.

Jars with covers, for crackers, candies, tea, tobacco, etc. These are fine technical problems representing the greatest development of fourth- or fifth-grade work. The design problem here is simple and definite.

The above exercises aggregate more than any class can do in one year but they repre sent work which has been tested in the fourth and fifth grades. . . . .

Processes

The teaching is begun in the following way: pupils are instructed in the handling of clay and in the manner of making good tiles that will not crack or warp. Tiles are built most easily on common school slates. The size of the tile having been determined, a thin layer of clay is built with small pieces well worked together, making a foundation somewhat larger than the required size. On this foundation other small bits of clay (as large as a marble or walnut) are thoroly worked until the tile is ¾ inch thick, homogeneous and perfectly smooth and level. The edges can then be cut straight and the corners square with a thin-bladed wooden or wire-end modeling tool. One tool with a wire loop at one end is sufficient for every pottery purpose in the intermediate grades. This tile is the foundation for all other pottery problems. It is the first thing made, serving as the bottom for jars, flower-pots, and boxes.

Bowls, trays, and other vessels are usually built by the method still used by the Indians. It is the practice which has been followed by most primitive people and can be made to produce very perfect ware. A lump of clay is rolled into a thick rope, ½ inch in diameter. This is coiled to form the bottom, and the coils well worked together on one side, the whole turned over and the opposite side treated in a similar manner. Additional rolls are laid around the edge of the foundation, on the tile, making the wall of the pot. When the wall has been built up three or four layers these should be worked together both inside and out to make the wall solid and firm. Each layer must be securely fastened to the one below, otherwise the vessel will crack in firing.

This practice of using rolls of clay produces pottery rather quickly and enables the pupil to soon learn to control the shape of the piece. To make the pot grow larger in diameter as it grows up, each successive layer is laid a bit toward the outer edge of the rim; to contract the top, the successive rings of clay are attached to the inner edge of the roll beneath. To be successful the rolls should be made with the fewest possible manipulations, as clay tends to dry and crumble with much handling. . . . .

This primitive process is quite as satisfactory for rectangular things, only care must be used to keep corners square and the sides straight.

Pottery, even built ware, should be as thin as possible. As pupils gain skill their building ought to be more true and they should make lighter pieces. All pieces made in this way must be scraped down smooth on the outside, and this process can be carried on until the walls of the pot are quite thin. The scraping (with the tool mentioned) should be done if possible after the work has stood a day or two and become somewhat stiffened, so that handling will not put it out of plumb. . . . .

Decoration

Ornament should keep its proper place as a part of the whole design. The application of ornament should be consistent with the material of the object decorated. Clay pieces may be embellished by motifs scratched in the soft material, or modeled in relief, or even painted on, if the painting be done in color that will stand fire. The most direct ornament is that incised in the clay itself and this kind is the backbone of design for pottery decoration.

(These articles include detailed directions for applying decoration, firing, glazing, etc., with lists of material required and their cost.)

2. A STUDY OF THE MACHINE SHOP IN GRADE VI[1]

(Horace Mann School, New York)

From the handicraft work of the preceding year the sixth grade advances to a study of the factory, or mill, as illustrating the modern method of production. In carrying forward this study, the class constructs a model of some type of factory and installs models of machines, which are belted to lines of shafting and driven with water-wheels. Along with the constructive work, and of fully equal importance, is the study of an actual factory, its system of organization and division of labor, the source of power, and the nature of its processes and products. Visits to shops and mills are an important help in this part of the work.

Just how the study is conducted may perhaps best be illustrated by describing the work of last year. After a discussion of the importance of the factory in modern industry, how its great development was made possible by the introduction of power and by the division of labor, the boys suggested various kinds of factories that they would like to build. The machine shop was most popular, and it was proposed to combine with it the wood-working mill, second in choice, in order to represent a complete equipment for manufacturing in wood and metal. The erection of a suitable building for this equipment was discussed by the class. The problems were presented as to what kind of construction was required to accommodate heavy machines, and how these machines should be arranged with reference to their operation and the use of power. The boys thought out the different problems quite intelligently, and gave a number of good suggestions as to how the factory should be built. They suggested that the most particular work needed the best light, that the heaviest machines should be near the walls, that machines of the same kind should be grouped together, and that they should be placed in rows in order to receive the power from the lines of shafting. The ideas brought out were reduced to a definite plan which was drawn on the board, and from it a lesson was given on the names and functions of the principal structural parts of the mill, and the methods of framing them.

The class was then organized into several construction squads for the purpose of erecting the factory building. Long strips of wood were provided, and each squad proceeded to make and assemble its assigned part. When the boys on the sill and plate group had completed their part, they located the places on the sill and plate for the studs, floorbeams, and stringers. As each portion was finished, it was put in, the roof trusses were placed, the floor laid, and the entire class of twenty to twenty-five boys was kept busy up to the time the building was completed.

The next part of the work taken up was the machine equipment. The boys were asked to describe some kind of machine that they had seen in operation. While most of the boys could describe a machine as to its outward appearance, few could tell how it worked, or what was its value as a producer. Their observations as a rule had not penetrated below the surface. Visits to shops were made with the definite aim of securing the important facts about the things seen in these shops. Previous to taking a class on a visit, questions were given to the boys to be written in their pocket notebooks with spaces between the questions for answers. The boys were asked to note the name of each machine and its purpose, to describe the cutting tool, the kind of power used, and how the work was held in the machine.

When the class went on a visit to a mill, and the use of the various machines was observed, each boy was kept busy filling out his answers and making sketches, and as a result he came away with certain definite ideas, and was too much occupied during the visit to get into trouble. It has been said that it is useless to take classes of young boys on visits to shops, because they have little knowledge of what they see, and do not appreciate the meaning of it all. We find, however, that if the boys have become interested in the work of such shops, and if they know definitely what they are to look for, there is no question

[1] From the *Teachers College Record*, Vol. VIII, No. 3, pp. 56–60.

that the results realized are worth while. Papers were written describing these visits as part of the homework, and at the next lesson a discussion on the meaning and value of the division of labor was held. The boys described how the work was passed from man to man, each doing a part, and only one part. Reasons for having a man do but one small part of the work—just one operation—were asked for, and the suggestion was soon forthcoming that repeated practice enables a man to do one thing better and quicker. This, it was seen, meant less cost in labor, power, and room, and made the workmanship more uniform. On the other hand, it was suggested that to do but one thing all day and to know nothing else, was a disadvantage to a man as it hindered his advancement and gave him little to think about.

Models of machines were made for the mill, each boy making one machine. The woodworking mill was equipped with models of wood-planers, circular saws, and lathes, and the machine shop with drill presses, lathes, and planers. As each boy completed his machine, he installed it in the place planned for it, and then helped to build and put in a line of shafting and pulleys, and to run and adjust his belt. Class discussions were held on the subjects of shafts, bearings, hangers, and belts, as these elements were met with in the progress of the work.

The subject of power was then studied. The boys named the various sources o power with which they were familiar, as the steam-engine, electric motor, gasoline engine, hot-air engine, water-wheel, and windmill. The value and general uses of each were discussed, and the boys decided that the water-wheel was the one type that they could make. Different kinds of water-wheels were considered, making use of the observations of the boys in the country and in traveling. Catalogs and pictures were also shown. The impulse or jet wheel was chosen as the one best suited to be run by the city water supply. A model was shown the class with a demonstration of its operation and the question of the best form of buckets was brought forward. Various shapes of copper buckets were made and tested to find out which was the most efficient. The double-cupped pattern was proven to be the best, and a set of dies was provided at the suggestion of the boys, so that the buckets could be stamped out in copper in modern fashion. Each boy built his own wheel, and made the buckets for it. When the wheels were finished they were tested, and four of the best were picked out and coupled to the driving-shafts of the mill. These four were sufficiently powerful to drive the entire plant.

The project as a whole combined co-operative group work with individual work. Each boy, when the project was finished, had a machine and a water-wheel to drive it. At the same time he had co-operated with the other boys in his class in building and equipping the model mill, he had met the problems this work presented, had played a part in solving them, and was rewarded by seeing his work form an essential element in the whole result. Owing to the group organization of the work, the boys showed little of the tendency to lean on the teacher that is often the case in individual work. With responsibility placed upon them they found it necessary to act on their own initiative and to do their own thinking.

The subject of the power-driven factory, complicated and difficult as it appears at first sight, is in reality admirably suited to the boy of the sixth grade. His awakened interest in things mechanical, things that "go," is here given play and utilized to accumulate ideas. Individual ingenuity and initiative are aroused to the utmost by the constructive problems that the work presents, and the fundamental ideas of the factory organization are grasped with surprising readiness thru this intimate constructive experience. The boys obtain a broader experience in handwork in making this project than they would in making a course of useful models in some one material. There are a greater number of simple tool processes, and a larger variety of materials to work with. The subject is intensely interesting to the boys, and the ideas and principles are of value in the writer's judgment, far beyond the possibilities of any course of so-called useful models.

3. A STUDY OF PRINTING[1]

Printing is essentially a democratic art. It does not lend itself readily to the selfish uses of the few. Knowledge formerly in the hands of the few became the property of the many with the advent of printing. Its development has been parallel with the development of humanity, whose servant it has ever been.

This quality is one which recommends it especially for use in the schools. The average school is organized on an individualistic basis. Pupils are there for selfish motives —to gain knowledge. Social service in the ordinary schoolroom is so seldom met with because no opportunity is afforded to practice it. At times the spirit of social service creeps into some of our school subjects in a spasmodic way and then shamefacedly retires, and the old selfish, individual spirit reappears.

We find this the case in our woodworking shop, when the occasional group-project is worked out for the school, and then the relapse to the individual model. On this side, then, of providing opportunity for social service, the value of printing as a form of manual activity is noteworthy. A boy may go to the workbench to do a piece of work. This is usually for selfish motives. Seldom more than one piece is made. On the other hand, it is hard to conceive of type set up for one impression; it is seldom done. Printing presupposes many copies to benefit many individuals.

Take an inventory of the things a boy could print and enjoy selfishly, all his own, and they would be few indeed. I confess I have tried and find the list very small. His personal card, letter head, book-plate, and a few others would probably cover the list. Now take a list of the things he could enjoy with others and see the vast possibilities: motto cards, calendars, invitations to school parties, tickets to school entertainments, school paper.

Again make a list of the things which are a daily necessity in the life of this community, i.e., the school, and where does the list end? Report cards, blanks, spelling-lists, arithmetic lessons, labels for shop, labels for library shelves, circular letters, etc., etc. Do you not think the boy is more a part of his community, more in sympathy with it thru having served it? He is an important, valuable part of it. This feeling of responsibility, of value thru service, is an important lesson in citizenship.

SUGGESTIVE OUTLINE FOR COURSE IN PRINTING

I. Talks on History of Printing.
   1. Early methods of transmitting knowledge.
   2. Discovery of movable type; Gutenberg; effect.
      a) Improvement in type-making; lead.
      b) Improvement in press; Franklin.
      c) Modern methods; cylinder press; linotype.

II. Practical shopwork.
   1. Names of material used in printing-office.
      Practice in holding stick and in setting type properly.
      Setting type from "pied" matter for practice in holding stick.
   2. The type-case; lay of the cases, cap and lower.
      Type-faces; prominent names.
      Point system; lining system described.
      Distribution of type set in previous lesson.

III. Excursion to a typical job office to see all the processes of printing in operation, especially noting workmen and their methods.

IV. Practical shopwork.
   1. Simple composition; spelling-lists.
      Margins: top, bottom, and sides.

[1] From "A School Print Shop," by L. W. Wahlstrom, *Manual Training Magazine*, December, 1908, pp. 134–48.

Justification of lines.
Removal of type from stick; tying up type.
Removal from galley to stone.
Correcting.

2. Plain reading-matter.
Rules for spacing; indenting paragraphs.
Space between words and at end of sentence.
Size and style of type in relation to nature and use of job.
Consideration of paper: size, quality.
Margins: bottom, sides, and top.
Size of type-mass in relation to shape of page.

English composition, reprints of lessons, school papers, etc., will furnish abundant material of this nature. A long job may be divided into paragraphs, each boy setting one or more paragraphs. This makes possible rapid work.

3. Tabular work with rules and leaders.
Mathematics necessary to figure out job.
Program blanks, report blanks, statements, charts, diagrams, etc.

4. Broken reading-matter.
Work calling for considerable judgment in regard to spacing, margins, and general planning; programs, invitations, posters, and similar work.

This should be attempted only after considerable practice in other forms above mentioned.

V. Talks on methods of illustrating.
a) Woodcuts.
b) Stereotype and chalk plate.
c) Zinc-etching.
d) Photo-engraving.
e) Half-tones.
f) Electrotyping.
g) Stereotyping from linotype composition.

VI. Excursion to an engraving plant where processes may be observed.

VII. Practical work.
1. Woodcut: each pupil to design and make a woodcut; tail piece; initial letter (possibly in two colors).
2. Zinc-etching: same as for woodcut; book-plate for library; illustration for school paper; program cover. Combination of these designs with type composition.
3. Presswork: making ready of tympan; overlay and underlay; proper impression and inking; method of feeding.

VIII. Excursion to lithograph printing-plant.

IX. Excursion to newspaper plant.

4. A STUDY OF THE FOUNDRY[1]

To introduce the subject, a demonstration of molding and casting in soft metal was given with a borrowed flask and tools and some sand. The purpose of each tool was emphasized and, as each step progressed, the boys took notes and made sketches. Then each boy made a flask, rammer, slicker, and vent wire. As soon as the flasks and tools were finished, the classes were taken into the school foundry and given simple patterns to mold and cast in soft metal.

To furnish power for the operating of a model of a foundry, water-wheels were made and the best of these selected to run the blower.

[1] From "Industrial Studies in Manual Training," by E. E. MacNary, *Proceedings*, Eastern Manual Training Association, 1909.

As the boys finished their water-wheels they were organized into groups for constructing the different parts of the foundry, including the building, cupola, elevator for fuel and metal, blower, and the crane. Drawings were prepared for each part, with simple specifications, and put into the hands of the foreman of each group. These foremen were made responsible for the work of their own groups, and the teacher as superintendent dealt only with the foremen. These foremen were changed occasionally to give others some of the responsibility. Visits were arranged, and articles and illustrations were collected from magazines and trade journals. Each boy wrote a composition upon the process of molding and casting, explaining the parting, draft, venting, etc.

While the processes of construction were going on, each boy was treated as an employee of a construction company. It was surprising to see how sincerely the boys conformed to the industrial organization idea, and to note the individual growth as they measured up to their responsibilities when they were assigned to important positions.

C. SPECIAL INDUSTRIAL CLASSES

1. SPECIAL CLASSES—(In the Boston Public Schools)

It was for the purpose of making such experiments as are suggested at the end of the preceding report that the Boston School Committee on May 6, 1907, passed the following order, namely: "That the Superintendent be authorized to designate one or more boys' elementary schools in which the course of study may be experimentally modified for the purpose of determining in what way these schools may become more effective in training pupils for industrial pursuits, while at the same time maintaining their efficiency for preparation for high schools."

In accordance therewith, the Superintendent selected the Agassiz School, Jamaica Plain.

About a week before the close of school, copies of the following circular were distributed among the boys who were to be in Grade VI during the coming year.

AGASSIZ SCHOOL, JAMAICA PLAIN, MASS., JUNE, 1907.

An opportunity will be offered, next September, to fifty boys of Grade VI in the Agassiz district, to enter a class in which the course of study is planned especially for boys who have an aptitude for industrial pursuits.

This course will offer more manual training, shop arithmetic and working drawing, and at the same time maintain the efficiency of preparation for high schools.

If you wish your boy to join this class, please sign the following blank form, and return it to the master of the school.

As the number who can be accommodated in this course is limited, the earliest applications will be considered first.

The class was divided into two sections of twenty-five boys each, and each section worked one hour of each school day.

In determining the nature of the work to be done, and in selecting the articles to be made, one fundamental principle served as guide. Everything was made to conform as closely as possible to actual industrial work in real life. The product was not only useful but needed, and was put to actual use. It was something which could be produced in quantities. The method was practical, and both product and method were subjected to the same commercial tests, as far as possible, as applied in actual industry.

For two years these boys had done the regular manual-training work of Grades IV and V, cardboard construction, so it was decided to begin the industrial work with box-making.

It was found that pasteboard boxes, costing three-quarters of a cent each, were being used by the school department in sending out certain supplies, and the class undertook the manufacture of several hundred of these boxes.

The method employed was as follows: First a sample box was studied and careful note was taken of its use, of the material of which it was made, and of the details of its construc-

tion. Especial attention was called to the dimensions and to the need of obtaining accurate results in order that all boxes might serve the purposes for which they were intended and also be alike.

Each boy then made one entire box, drawing, cutting, scoring, gluing, staying corners, and pasting.

Next, by a brief talk, and with necessary demonstration an explanation was given of the greater economy of employing "industrial methods."

Jigs were made for facilitating some of the operations and for securing greater uniformity in the product. The class was organized into different groups of from two to six boys each, each group performing one of the several operations involved in the making of the box or the cover. There were the box-cutters, cover-cutters, stayers, pasters, fitters, and gluers. There were those who assembled, inspected, packed, and counted the boxes, and there were the assistant teachers—foremen in embryo.

Of course this was not all done in one lesson. By the time 750 of these boxes were made and packed ready for the supply team, the boys had gained at least a glimmer of light on five points of superiority of this, the industrial method, over the method first employed: First, that there was greater economy in the use of material. Second, that much time was saved, since it was not necessary to lay aside one tool and hunt for another at the completion of a single operation. Third, that the skill increased very rapidly by performing the same operation many times. Fourth, that a standard of accomplishment in a given time was established, below which no self-respecting boy wished to fall. Fifth, that a "good" box could not be produced if any of the group of boys did "bad" work.

The second project was a box smaller and more finely constructed than the first. Sixteen hundred of these were made.

In speaking of the methods used in making the later projects it is only necessary to note two points in which they differed from those first employed: First, in the earlier project the groups were chosen with reference to the ability of individual boys and the difficulty of the several operations. In the later, the groups were formed by taking the boys in order, just as they came, and a "foreman" was appointed for each group.

Second, a system of "check" was introduced which made it possible to trace poor work to its author—thus fixing responsibility. After the completion of the second project some calculations were made to ascertain the increase of efficiency, and it was found to be about 400 per cent.

Subsequent projects were vellum-covered pencil boxes, for use in high-school drawing-classes, and "Harvard" covers of vellum with leather backs and corners. Of the former about 475, and of the latter about 800 were made.

During the second year there were made, in addition to the above, and in considerable quantities, modeling boards, window-boxes, specimen boxes for the Normal School, spool-holders for the Practical Arts High School, looms, with heddles and shuttles, for the elementary schools, and cabinets for pencils, crayons, etc., for the Evening Industrial School.

The experiment is now in its third year, and 150 boys, three grades, are at work. The results have been so promising that the School Committee has inaugurated several similar experiments this year (October, 1909). The nature of these experiments is as follows:

a) Classes in Grade VI, giving five hours a week to manual training and drawing, without losing rank in the regular graded system. These classes will be called general industrial or work classes, and the product which they turn out will be such as can be utilized by the school supply department. It is expected that the work done will arouse their interest in things industrial, and that they will more naturally enter into more advanced industrial classes.

b) Classes made up of boys and girls fourteen years of age or over, selected from lower grades, and given drawing and constructive work for periods varying from ten to twenty hours a week, and also arithmetic, language, and other academic work. It is expected that some of these pupils on completing the first year will leave school, as they would other-

wise have done, but that a considerable number will remain for one or even two or three additional years in higher industrial classes. The subjects included are, woodworking, cabinet-making, metal-work (heavy), sheet-metal work, bookbinding, and printing.

c) Classes open to graduates of the elementary school, similar in nature to those described in *b*.

d) Special classes in high schools where pupils will have the benefit of the regular high-school work and an opportunity to study intensively one industrial subject such as jewelry and silversmithing or electrical manufacturing, in the afternoons.

In most of the above classes it is expected that the product will be such as can be manufactured in some quantity, and such as will be of actual use to the city. It is felt that there is great value in this productive labor on the part of the children. An experiment of two years has proved that it is as vitally interesting to the pupils as any form of manual training which we have ever employed.

2. SPECIAL CLASSES—(In the Bnai Brith Manual Training School, Philadelphia)

The general plan was for three distinct but related lines of work. The first of these was necessarily the supplying of manual training to the public-school pupils, since this was not provided by the Board of Education, except for girls. Arrangements were accordingly made with the nearest public school which permitted the boys of the four upper grades to attend once a week during school hours, exactly as they go in other cities to a regular manual-training center.

The other two lines of work were arranged in the late afternoon and evening. The afternoon classes were to provide more intensive work outside of school hours for public-school pupils, while the evening work was to aim at elementary preparation for certain trades.

It was thought that these three departments would in time become closely integrated, and that they would open up the field of industry to the boys of the section in a very effective and natural fashion. The public-school classes would reach every boy and the time allowance, tho brief, would necessarily give him some clearer idea of his fitness for mechanical work. The late afternoon classes would attract the most mechanical and would give opportunity for sufficient variety of work to enable them to ascertain more definitely what special lines were best suited to them. This work, it was thought, would in many cases establish the interest and habit sufficiently, so that, on leaving the public school at fourteen years of age, they would take up an evening trade course. This would not only tend to keep alive their interest in mechanical work during this critical two-year period, but would give enough of practical preparation to assist them materially in finding apprentices' positions, and possibly shorten somewhat their apprenticeship term.

The four late afternoon classes (twice a week, 4:00–5:30) are no doubt the most distinctive feature of the school's work. It was the purpose that they should be classes in fact, following definite courses of study, and not merely a group doing haphazard extra work. No one cared to predict the proportion of the public-school classes that would register, nor the proportion of those registering that would continue. But almost from the first, 30 per cent. of the pupils in the three upper grades have been upon the roll, and the monthly attendance is from 90 to 97 per cent. Thus, for about a third of the boys serious instruction in manual work proves to be a preferred form of play. Two classes specialize in the making of furniture, the other two in mechanical problems. Efficient turning-lathes have been built, with babbited bearings and pulleys cast from lead alloy; also water-wheels with power sufficient to run the lathe, sewing-machine, or small dynamo, the latest trade catalogs being consulted by the class in the effort to secure the highest efficiency. When completed they were tested under a pony brake, each boy calculating his horse-power according to the formula. A small screw-cutting lathe has recently been secured and the most advanced class is now building electric motors from the rough castings—learning in an excellent way the elements both of machine construction and of electricity. The turning-

up of a dozen armatures on one lathe required extensive organization and some overtime work on the part of the pupils acting as lathe assistants, but the difficulties were not serious enough to disturb the interest of the classes in the problem.

II. REPORT OF SUBCOMMITTEE ON INTERMEDIATE INDUSTRIAL SCHOOLS

Aim of chapter.—This chapter aims to discuss a limited field of vocational education. On the one hand, it is confined to the industrial arts (the manufacturing and mechanic-arts pursuits as given in the U. S. Census); on the other to that form of vocational education which may be given in schools to youths (boys and girls) of from approximately fourteen to seventeen years of age, the majority of whom may be expected to constitute the rank and file of the industrial army.

The data or experience available as a basis for conclusions are extremely limited. In practice vocational education of an organized sort for the industrial callings has set sixteen as the minimum age—the usual age of apprenticeship. Again, existing types of vocational education have been either for particular trades, and so of a very specialized character, or so broad as to constitute merely the partial foundations for a subsequent technical training. Hence the report must confine itself to an analysis of the subject, and a study of the few existing schools which shed light on the problem.[1] But in view of the fact that so many communities and educators are willing to undertake experimental measures at the present time, it is felt that such a report as this may be helpful, especially in the fact that it converges its efforts on a fairly special problem in the entire field of vocational or industrial education. The following questions will indicate the lines of approach to the topic as elaborated in the following pages:

I. What is the meaning of intermediate industrial education? (Problems of definition and terminology.)

II. What are the elements in the social demand for this form of education?

III. What are the industrial fields in which this form of education is possible?

IV. What are the available groups of children for whom this education is desirable?

V. What are the practicable aims of intermediate education in industrial arts?

VI. What are the possible types and courses of work to be offered?

VII. How will the proposed form of education relate itself to:

a) Traditional forms of liberal (social and cultural) education?

b) The manual training of the elementary school?

c) The higher technical or industrial-arts education?

d) Trades and trade education?

VIII. What are the possible schemes of organization and administration, as regards support, control, etc.?

IX. What may be expected to be the cost and return of such work?

X. What are the possibilities as to co-operation of school and shop?

XI. What are the most significant features in experiments already begun?

[1] The report assumes familiarity with such recent material as the reports of the Massachusetts and New Jersey commissions; the Industrial Education number of the *Annals of the American Academy*, *Bulletins* of the National Society for the Promotion of Industrial Education, etc.

I. THE MEANING OF INDUSTRIAL EDUCATION

A. Principal divisions of education.—Vocational education, as the term is employed in this report, is one of the four great divisions into which all education which is not distinctly elementary (and therefore largely undifferentiated), may be divided. These four divisions are: (1) Physical education; (2) vocational education; (3) social or civic education; and (4) cultural education.

The above classification needs explanation. It is not generally employed, but the committee finds no agreement as to educational terminology, and much confusion results if terms are not defined. Therefore the committee adopts what appears to it the best classification at hand, clearly recognizing, however, that the above is neither complete nor are its divisions exclusive.

a) By physical education is meant all that educational effort carried on in a deliberate fashion (in school, home, shop, etc.) which is designed to improve and prolong bodily welfare. Physical training, instruction in hygiene, maintenance of hygienic surroundings, etc., are parts of this division as we find it in the schools. Physical education makes contributions to vocational efficiency, but is not designed deliberately for it.

b) By vocational education is meant all that training and instruction which purposely ministers to self-support and productive capacity. Historically, it must be recognized that vocational education has been given by what may generically be called the "shop," including in this term the office and the store, under conditions of apprenticeship. The home has for many, especially girls, been the "shop" in this respect.

c) By social education is meant that training, instruction, and stimulation of ideals which are aimed to improve one's ability to live the "group" or "membership" life. It embraces what we usually mean by such phrases as "moral training," "ethical instruction," "civic training," "religious education," etc.

d) By cultural education is meant that which aims primarily at the cultivation of the interests and appreciations which are intellectual and æsthetic in character, but which have more relation to avocation than to vocation. Literature, art (when considered apart from productive necessities), science, history, general knowledge, etc.—these are elements of culture which may be aimed at apart from vocation, and they may be made the basis of a rich life during hours of non-employment in the vocational pursuit.

It is recognized that the pursuit of any one of the above large educational aims reacts on the others; but it is contended that an effective education demands some knowledge of aim or purpose which can best be subserved in the later stages of schooling, by keeping the above aims separate in planning work and adapting methods.

In common practice two of the divisions given above (cultural education and social education) are described by the one word "liberal." Where "liberal education" is hereafter spoken of, it will embrace these two divisions.

B. Definition of vocational education.—While we define vocational

education as that whose means and methods are determined mainly by the requirements of particular callings or groups of related callings, it is evident that the directness with which any given educational procedure bears on vocation may vary indefinitely. The study of science, mathematics, or art may or may not be vocational according to its purposes, emphasis, and the types of students concerned. Some studies may be vocational, not in the sense of conferring any immediate vocational power, but in giving certain broad foundations for development. Thus, manual procedures, such as shop and laboratory practice, may be vocational, tho having no specific end in view. No absolute line of demarcation can be drawn here, but for convenience we shall recognize the following divisions of procedure in vocational education:

1. Around any vocation, or large or small group of related vocations, may be assembled a certain amount of history, geography, economics, etc., which can be studied for the sake of "industrial intelligence," breadth of view, vocational ideals, etc. Outside the field of industrial arts such studies are now found, e. g., around the study of medicine, law, engineering, commerce, and even agriculture. There is no reason why such studies should not develop appropriate to various grades and classes of workers in industrial arts. If designed primarily to reinforce vocational power, growth, and satisfaction, they should be called vocational studies. In this report they will be designated as the "general vocational studies."

2. Back of almost all groups of related vocations are certain phases of mathematics, science, drawing and art, and manual practice in which training, instruction, and laboratory practice may be given primarily with a view to their ultimate application to a vocation. These will be called the technical aspects of vocational training.

3. The third group of studies or practices involved in vocational training will be called the concrete. Under this head in industrial arts is comprised manipulative practice with the materials and tools such as are found in the industrial-arts processes themselves. Shop work, field work, the construction of usable and salable products, are all more or less involved. In this division the manipulative practice becomes the chief means of learning, whereas in the technical division it is the secondary means.

It is not assumed that vocational efficiency comes only thru specialized training to that end; physical education, training in civics and morals, and many of the aspects of cultural education make contributions to vocational success; but in practice these results are secondary effects of the pursuit of other aims.

Under vocational education we have five great divisions: (*a*) professional; (*b*) agricultural; (*c*) commercial or business; (*d*) industrial; (*e*) household arts. The United States Census divides vocations into five main classes, which correspond largely with the above. The following are the divisions, with the number of workers (women workers indicated by the second number in each case) in each: (*a*) professional, 800,000 and 400,000; (*b*) agricultural,

9,400,000 and 900,000; (*c*) trade and transportation, 4,200,000 and 500,000; (*d*) manufacturing and mechanical pursuits, 5,700,000 and 1,300,000; (*e*) domestic and personal service, 3,400,000 and 2,000,000.

In each of the above divisions we may recognize stages of educational preparation, as elementary, intermediate, secondary, and higher. In the professional group an intermediate or secondary stage of vocational preparation is usually undifferentiated; all professional education belongs to the "higher" stage. Technical schools, high schools of commerce, agricultural schools, schools of household arts—all give us well-defined "secondary stages," taking selected individuals who have completed the elementary course and who have ability and economic position sufficient to justify the hope that they may become leaders in their respective fields. Elementary vocational training is something hardly recognizable as yet. The term "intermediate vocational education" may be applied to that which does not assume either the ability or the length of course presupposed in "secondary education," but assumes an age beyond that commonly found in the elementary school.

C. Definition of intermediate industrial arts education.—This form of vocational education is primarily (*a*) for youths from fourteen to sixteen or seventeen years of age, in (*b*) the fields of the trades and manufacturing industries, and (*c*) does not assume in its students completion of the elementary course of study. It is primarily designed for those who will probably be the rank and file of industrial workers. It is not assumed to give complete trade training, or complete equipment for specialized factory processes, but rather to lay a practical foundation for these.

Schools already existing indicate, however, that an intermediate school might, according to circumstances, (*a*) prepare for an effective apprenticeship (like the vocational school in Rochester), or (*b*) for actual trades work where this is relatively simple (like the Manhattan Trade School for Girls), or (*c*) for study in more advanced trades schools, where these take the place of apprenticeship. The possibilities of preparation for highly specialized factory processes are yet obscure.

II. THE SOCIAL DEMAND FOR INTERMEDIATE INDUSTRIAL EDUCATION

This subject has been much discussed in recent literature, and the report is in substantial accord with the more complete expressions which have been made by various commissions, special students, etc., in recent years. For convenience, however, the commonly accepted positions are summarized here:

A. General considerations.—1. Vocational education, given by some agency, is indispensable both to the success and happiness of the civilized individual and to the prosperity and development of the civilized state.

2. The agencies formerly responsible for producing vocational efficiency were the home and the shop (apprenticeship in all callings—industrial, commercial, agricultural, and household). But, for a variety of demonstrable reasons, connected largely with modern economic development, each and all of these have declined in efficiency as educational institutions.

3. In the field of cultural and civic (liberal) education the state has assumed a constantly increasing rôle in all countries. State support, state control, and state compulsion of the individual toward attending school and reaching a certain standard, tend constantly to increase. Better-trained teachers, better equipment, free books, specialized schools—all these indicate the increased socialization of liberal education. On the other hand, barring certain professions and engineering callings, the part played by the state in vocational education has actually become less. No longer do laws of apprenticeship protect the child against either himself or his economic environment. The home has become relatively helpless. In other words, the social principle of *laissez faire* has assumed ascendency in the field of vocational education with disastrous consequences so far as large numbers of individuals are concerned, and with harm to the state.

B. Special considerations.—1. Especially under modern conditions does apprenticeship fail to provide for the intermediate stage of industrial arts for children from fourteen to seventeen. During this time multitudes of children enter the so-called juvenile employments which are peculiarly adapted to profit by their labor, and which are fairly remunerative, but are devoid of opportunities for genuine industrial training. In fact they are more than educationally sterile—many of them directly disqualify the child for further vocational advance, owing to their effect on health, morals, and other forms of efficiency.

2. So far has this last condition been recognized that in the more progressive states legislation defining the conditions of undesirable industries or fixing more satisfactory educational standards is rapidly having the effect of closing many industries to youths under sixteen. This increases the need that the period of at least two years after the elementary school shall be utilized for vocational training.

3. The industrial world is persistent in its demand for more efficient workers. In some cases the efficiency demanded is that of mere technique or skill; in others for qualities of intelligence or moral character. We have no satisfactory evidence that both sets of qualities may not be produced by appropriate educational procedures centering along vocational lines. It is well known that in some industries this education is now given, supported by philanthropy. It is reasonable to expect that systems of vocational education can be devised which will enhance the productive capacity of a very considerable number of individuals, that will relieve the population in time of the large proportion of untrained laborers who now so largely fill the ranks of casual labor, and easily become the unemployed.

4. The evening continuation school which was formerly thought to be a possible solution of the problem of industrial education has largely failed to realize expectations, and under present industrial conditions, probably ought not to be expected to, so far as the group of young people here under discussion is concerned. Youths of from fourteen to sixteen are still too young to

carry on night study after a full day's labor, especially if the principle of the shorter working day has not been accepted. Sleep and rest must not be withheld, and it has been proven that evening instruction for such youths is largely futile owing to the tired condition of the body.

5. It is not assumed that in the years from fourteen to sixteen it is practicable to give a complete vocational education; in most cases the completion of the education must be found in the actual pursuit of the calling. What is accepted is that under school conditions, where the needs of related groups of vocations are kept clearly in mind, it is practicable to give a very considerable part of the training which makes for vocational efficiency, and especially those parts which the industry itself proves least able to give. What shall be given, and what proportions relatively of the general, the technical, and the concrete, must be determined by the economic conditions and capacities of the children concerned, the characteristics of the industry, etc. In some cases, the conditions may permit the fairly complete realization of vocational efficiency in a comparatively short time; the Manhattan Trade School for Girls in New York provides such an example. In other cases it may prove most feasible to utilize this period largely for general and technical training, with the reservation that this shall be adapted to the major groups of children concerned rather than to a few select individuals who may reach the higher levels of education or vocation. In still other cases it may prove necessary to have one kind of concrete work in the school, and another kind in the actual industry. These represent problems to be worked out in the process of adapting vocational education to localities, or rather to groups of young people in connection with the industries possible for them.

III. INDUSTRIAL FIELDS FOR SPECIALIZED EDUCATION IN INDUSTRIAL ARTS

Specialization characterizes modern industry. A fundamental objection to trades training in public schools is found in the great diversity of trades, each of which would require a separate school. Hundreds of distinct trades are recognized by the United States Census, scores of which may be found in a single population center. What was once the simple vocation of shoemaking has evolved into several dozen trades, in some of which skilled, in others unskilled, labor is in demand. The intermediate industrial school cannot primarily aim at trades teaching because (*a*) these are too many and diversified, and because (*b*) training for them would be narrow and intensive, and would prevent the realization of the larger vocational qualities which such education aims to attain. But it appears that back of many groups of trades or factory processes are found certain elements of likeness in the materials employed, the tools used, and the general character of the product.

Shoemaking, for example, involves on the part of nearly all the specialized workers experience with leather, and with leather-working tools. Something of chemistry, of physics, of trades, of history, can be profitably utilized by all varieties of shoeworkers.

As another example, in the United States something like a million workers are in trades or factory processes based on wood and woodworking tools. While there are dozens of specialized trades, there is a fundamental body of experience and knowledge which may be acquired thru concrete and even productive work on a relatively simple scale.

Similarly we find in the steel- and iron-working vocations something like a million workers. It is evident that machine-shop practice, forge work, foundry practice, etc., are more or less truly vocational for these callings; and these subjects are already taught under school conditions. Given more time to ordinary boys for concrete practice, and the related theoretical work, it is evident that vocational training for this group of industries becomes quite feasible.

The following represents a classification of the chief industrial groups represented in the United States toward which it would seem that the intermediate industrial school might operate to best advantage. The number of workers in each is roundly stated (where two numbers appear, the second is for women workers):

A. Industries based on wood and woodworking tools: Carpenters, 600,000; cabinet makers, coopers, saw-mill workers, etc., 346,000.

The bench work of the upper grades of the elementary school offers suggestions as to concrete work. Drawing, physics, study of woods, the crafts studies, some phases of economic history, principles of forestry, etc., for supplementary studies. Some forms of woodworking are localized, like furniture-making (which the new school in Rochester recognizes); but each large city requires a constant supply of carpenters. Trade schools for carpentry already exist (Baron de Hirsch, New York; Williamson School, Philadelphia, etc.). An important part of such a course would be the analysis and operation of such woodworking machinery which involves main principles of machine action. This field of intermediate work offers peculiar facilities for producing usable and even salable products; in certain industrial centers the part-time system might be developed, especially in connection with furniture-making.

B. Industries involving primarily work with iron and steel: Blacksmiths, 226,000; iron and steel workers (in mills), 290,000; machinists, 283,000; plumbers and gasfitters, 97,000; others, 100,000.

Here trade-school work and the shopwork of technical high schools offer suggestions. Much of this work leads to well-defined trades. The intermediate school might confine itself to preparing for successful apprenticeship. Drawing, certain phases of applied chemistry, applied physics, analysis of machine tools, study of the contemporary aspects of the production and consumption of iron and steel—all these offer rich opportunities for development of supplemental courses. Perhaps this field does not offer abundant opportunities for productive, i. e., usable or salable work; but its possibilities have not been fully tried.

C. Bookbinding and pasting trades. Bookbinders, 14,000 and 15,000 (women); box-makers, 3,000 and 17,000; and, possibly, some of paper-makers, of whom there are 26,000 and 9,000.

This is a limited and usually localized group of industries. Preparatory vocational work would necessitate specialized practice, and specialized technical work. A good field

for making of complete products. Some experience in this field has been had under manual-training conditions. The work is well adapted to girls.

D. Printers' trades, 139,000 and 16,000.

These offer peculiar opportunities for preparatory vocational training. Successful examples found in reform schools, and in the volunteer work of some public schools. Technical studies and general vocational studies could easily be evolved, as the field is rich in material. Largely localized.

E. Industries involving leather and leather-working tools: Boot and shoe makers, 169,000 and 39,000; harness and saddlery, 40,000; tanners, 42,000; trunks, etc., 5,000 and 15,000.

A great variety of trades rest on these materials, many of which are localized. Unskilled labor is said to play a considerable part, but one aim of industrial or vocational education here discussed is to give the laborer in fields not requiring skill some appreciation of social significance of his work, and capacity for change from one minute division to another. Obviously opportunities for concrete expression here are abundant; and usable and salable products might, within certain limits, be produced. Technical work would involve special aspects of chemistry, physics, experimentation with materials, and, possibly, drawing. Mathematics might or might not figure. Analysis of machines, certainly a large part. Schools of this kind exist in England, but on advanced or technical scale. General vocational work could easily be devised.

F. Textile work on factory scale: Cotton mills, 125,000 and 120,000; hosiery mills, 12,000 and 34,000; silk mills, 22,000 and 32,000; woolen mills, 42,000 and 30,000; other textile mills, 53,000 and 51,000.

A great variety of trades, in which it may prove difficult to find basal courses, since the statistics include under these mill-workers, dyers, spinners, etc., who work with quite different materials. The problem here is complicated by doubt as to whether the mill itself is not, in many cases, the only school that can give operative skill. The Public Industrial School at Columbus, Ga., is giving work in this field, but for foremen rather than rank and file. It is evident that, if it should prove worth while, it is not impossible to provide the concrete work here, beginning even with hand processes, as in woodwork. Technical work could involve analysis of machinery, study of textiles, possibly some physics, drawing, mathematics, and chemistry doubtful, except for specialized workers. General vocational studies—of markets, sources of supply of raw materials, economics of consumption, etc., easy to develop.

G. Clothing Trades: Dressmakers, 2,000 and 344,000; millinery, 1,000 and 86,000; seamstresses, 4,000 and 146,000; tailors and tailoresses, 160,000 and 63,000; shirts, collars, etc., 8,000 and 30,000.

In this field we have much experience to draw upon, notably that of the Manhattan Trade School for Girls and the Boston Trade School for Girls. Opportunities for concrete work of a satisfactory type (usable, even salable) abundant. Related technical work in art, drawing, analysis of tools and machines, and possibly in the properties of the peculiar materials employed fairly numerous. Some mathematics of a practical nature can be developed. A rich field for general vocational studies, like economics of consumption, history of textiles and their uses, geography of markets and sources of supply, social conditions of workers, etc.

H. Engineers and firemen: It would appear that there must be over 400,000 workers in this field.

The evening schools and the new school at New Bedford seem to offer suggestions as to practical courses for the type of boy here under consideration. Concrete work could be found in machine work and engine running, technical work in mechanics, heat, engine, machine construction, drawing, etc. Many sources of general vocational work.

The following groups are important in numbers of wage-earners and value of product but represent less evident possibilities of approach for the intermediate industrial school.

I. Industries involving primarily work with stone: Masons, 160,000; roofers and slaters, 9,000; marble and stone cutters, 54,000; plasterers, 35,000.

In the formation of intermediate school work in this group of industries, we have little experience to fall back upon. Apprenticeship still survives here in considerable measure. Some of the concrete work would be similar to that found in iron and steel; theoretically it would appear easy to provide other forms of concrete work with building-stones, marble, etc. The technical studies would involve modified forms of drawing, art, mechanics, and mathematics; and general vocational studies based on specialized phases of geography, geology, history, economics, would be easily supplied if the school of this type were called into existence. Many of these industries being localized, the establishment of such schools would be a simple proposition.

J. The clay and glass industries, where furnace heat is also a factor; Brick and tile makers, 50,000; glass-workers, 50,000; potters, 16,000.

These industries are usually much localized. Some of them now employ child labor extensively, suggesting the possibilities of some "half-time" connections. They require, in so far as they utilize skilled labor, specialized forms of art instruction, and, as further technical studies, could develop a specialized chemistry and physics. Schools in these callings are yet rare, except on remote artistic levels.

K. Industries concerned with paint, paper, plaster, etc.: Painters, glaziers, varnishers, 277,000; paperhangers, 21,000.

A variety of trades having apparently a large common basis. Concrete work should be easy to provide, as suggested by trades schools now in existence. Drawing, mathematics, science, etc., of a specialized kind. Largely localized so that each large city could afford to maintain such a school, if it appears that apprenticeship is ineffective.

L. Food making or preparing industries, but not household arts: Butchers, 113,000; bakers, 74,000 and 4,000; confectioners, 21,000 and 9,000; miscellaneous food-preparers on factory scale, 65,000 and 5,000.

A field in which little is done in America in preparatory industrial training, but numerous examples in Germany. It would appear that opportunities for concrete work should be abundant and field of technical work in biology, chemistry, physics, quite unlimited. Possibly one of the few industrial fields not requiring art or drawing as a vocational study. Abundant general studies from the economics of consumption. Much of the theoretic material could be derived from best schools in household arts. Since confectionery making, for example, is now a juvenile industry, half-time co-operation might be feasible.

M. Workers with tobacco: 87,000 and 43; this is largely an unexplored, but socially important, field of production.

N. Miners and quarrymen: 500,000.

This is an immense and important field of industry. It may offer good opportunities for preliminary training but it has so far received little consideration. Possibly half-time work might suffice to give part of the concrete work. A certain amount of concrete work with wood and steel would be of some service. Opportunities for technical work in science and mathematics abundant, and also probably in analysis of machines, studies of gas, explosives, etc.

Other divisions might be made. For example, metal-working on a small scale, or with materials other than iron and steel, furnishes certain fairly localized trades, for which special preparation might be necessary. Schools for jewelers and watchmakers may furnish some hints, as also evening classes for tin and sheet metal work. This work is being taken increasingly by girls. Let it be repeated that the above classification is merely tentative, with a view to finding a few simple groups of callings, for each of which suitable basal preparation could be given.

IV. GROUPS OF CHILDREN AVAILABLE FOR INTERMEDIATE INDUSTRIAL SCHOOLS

Schools or courses cannot be established to meet individual wants. Economy requires that there should be available for any type of vocational school large groups whose interests, capacities, and probable economic destination justify the maintenance of such schools. The following commonly accepted facts are important:

1. Large numbers of children, commonly more than half of those entering public schools, do not complete the eighth grade, and these usually leave school as soon as the compulsory period of school attendance has elapsed.

2. Of pupils finishing the elementary a majority either do not enter the high school, or their period of attendance thereat is brief.

3. In urban communities large numbers of the above children enter the non-educative juvenile employments.

4. In the majority of cities of the United States, excepting those that are purely commercial centers, there is a considerable localization of industry. Examination of the census of manufactures will reveal that this is the tendency to an extent not commonly realized.

5. In all large cities there are found enough workers in certain trades to justify preparatory schools looking toward these industries: woodworking, working with iron and steel, printing, painting, varnishing, etc., food stuffs (baking, butchery), and possibly stone and tile work. For each of these groups enough workers in prospect should be available to justify the maintenance of such schools.

No satisfactory studies exist showing the distribution of the grades or kinds of ability suitable for the various major types of vocational training proposed above. Probably such studies may not be expected until society has begun establishing schools, and finds a considerable group of children not adapted to one, but probably suitable for another.

Experience shows that it is not difficult to fill up a vocational school, once

its purpose and industrial value are recognized. Ultimately we may reasonably expect attendance to be made compulsory on some form of vocational school, the pupil being left to elect the type of vocation toward which he will aim.

V. THE PRACTICABLE AIMS OF INTERMEDIATE INDUSTRIAL EDUCATION

In view of the average age attainments, and economic necessities of the children here under consideration, it is evident that intermediate industrial education must carefully define its aims. We note in the first place that it is not practicable for it to aim (*a*) to train educational leaders, or (*b*) to lay the foundations for any and all forms of vocational power by a single course of training; and it is not desirable that it should aim (*c*) to make vocational training incidental or subordinate to further liberal training, or (*d*) to confine itself to a narrow and highly specialized trade training.

a) The training of educational leaders in the field of industrial arts has already received much attention. Schools of engineering and mechanic arts, some of which receive national aid, already exist; the cities now support a variety of forms of technical training. While youths of promise will always pass from schools like that under contemplation to the higher schools, it would defeat the true purpose of the former if it allowed its program to be materially modified in the interests of those who are probably able to take the more prolonged and higher forms of training.

b) It is a favorite dream of educational theorists that some form of all-around training will give equipment for all vocations alike. This is a survival of the theory of formal discipline and of the belief that the logical order within studies is also the pedagogical order. From this point of view, drawing in its mechanical aspects, and mathematics, are fundamental vocational studies. But an analysis of industries will show that in many drawing is hardly used at all; and that in all, the drawing, mathematics, and science that are used are varied greatly according to the industry. Hence it is essential that each group of related industries should develop its own preliminary course of training, as illustrated in the discussion of the groups of industries previously given.

c) There survive in educational administration certain forces which constantly tend to deflect education, which has been intended to be vocational, toward general or liberal ends. Those who support this tendency take far more account of the few pupils who succeed in any type of school than of the much larger number who usually drop by the wayside.

d) It is possible to give a type of vocational training to youths which shall be so narrow and specifically technical as to entail the same effects as too early industrial work. This undue specialization is far more apt to take place under private than under public-school auspices.

Among the aims which such a school may well follow are these: (*a*) the development of a part of the experience, intelligence, and skill requisite in a given group of related industries; (*b*) the adaptation of its work to the prevailing industries of the locality; (*c*) A certain amount of vocational selection;

(*d*) The development of certain moral qualities and ideals, such as business honesty, fidelity to ideals of workmanship, a sense of industrial responsibility; (*e*) The production of certain large industrial qualities such as adaptability, capacity to advance, interest in work, etc.

a) How much the school of intermediate grade, having comparatively young pupils for two or three years, can accomplish along vocational lines is not yet known. Much will depend upon the type of industry involved. The Manhattan Trade School for Girls in New York within a year is able to accomplish much toward vocational fitness in certain clothing trades, and yet gives considerable attention to the physical, moral, and even cultural development of its pupils. For other industries, whose apprenticeship can only begin at sixteen or later, the intermediate school can only give a variety of preliminary experience. It is believed by many students that the kind of experience which a farmer's boy obtains along vocational lines is a valuable foundation for subsequent development. He works with many tools, with many kinds of materials, and usually with some appreciation of the outcome of his work in terms of the socially valuable. Courses in industrial arts can be devised, which, at least, will give similar experience with the tools, materials, products, information, etc., involved in groups of related industries.

b) Both on the side of its pedagogy and in connection with its social usefulness and command of local support, industrial education should grow out of community needs. For this reason, schools can be established, as a rule, only where some prevailing industry makes a considerable demand for trained workers. An examination of the census of manufacturing will show that to a large extent industries are localized in the United States, excepting only some of the "crafts" such as carpentering, blacksmithing, baking, etc. This localization of industry gives a point of attack for those proposing the new type of school.

c) Within limits a preliminary vocational school should serve as an agency of selection, primarily by indicating to youths the occupations for which they are manifestly unfitted. Under modern conditions of employment, without such experience, intelligent vocational selection is almost impossible. Schools which give youths opportunities to work with a variety of tools and materials, under competent direction, would enable parents to recognize the lines along which their children are most likely to succeed, and negatively those in which success is most unlikely.

d) The moral qualities most needed in industrial workers are easily recognized, but the psychology of their production is yet very obscure. But it seems reasonable to believe that the surest way to obtain such qualities is in connection with the performance of actual work, and under commercial conditions as nearly as these can be approximated by the schools. The shopmen who direct the practical work would possess unusual opportunities to exemplify these qualities, and to develop them as ideals. The relation of worker to employer, the recognition of the mutual advantage of "unscamped"

work, the rights of union action, etc., should certainly all receive some consideration.

e) It is also certain that the psychology of such composite qualities as "pleasure in work," "industrial adaptability," "power to advance," etc., is very obscure; but it is most reasonable to expect that we shall have to learn to realize them thru work of an educational nature in the field of concrete effort. The craftsmanship sense seems a very real thing in most youths; the school may find ways to prevent its destruction and even to minister to its further development when the worker comes under the influence of factory production and minute specialization.

VI. ORGANIZATION OF SUBJECT-MATTER

It has already been made clear that the character of the subject-matter will vary according to predominant industries for which preparation is being made, and therefore according to locality. Under the discussion of the main groups or related industries, suggestions were tentatively made as to organization of subject-matter. The following summaries, tho involving some repetition, are submitted for the sake of further clearness:

A. Concrete work.—Recalling that by this is meant all work with materials in a manipulative way, including analysis of machines, the following principles seem valid:

1. The concrete work should result in products which are usable and under favorable conditions salable. It will be noted that this principle is opposed to the one commonly employed in technical and manual training, where the emphasis is on the exercise, or isolated-type exercise. It is true that in some successful industrial education today, only exercises are dealt with; but almost without exception these schools have highly selected groups of workers. There appear to be strong pedagogic reasons for the acceptance of the above principle in the case of youths of from fourteen to sixteen who are finding themselves in an industrial sense. Since some work in the nature of exercises will be necessary, in many lines of industrial training, pedagogical principles would seem to demand that the work should deal primarily with whole products, reproducing actual conditions within practical limits, and that from work of this character should evolve the technical exercises and laboratory work.

2. While in the earlier stages of industrial-arts training, attention will be given largely to quality of output, there will be stages in the course when, thru actual experience, the significance of quantity should become understood. That is, commercial conditions should be sufficiently reproduced that an abiding appreciation of the importance of rate of work shall be developed. Some schools producing usable products accomplish this by keeping an account of each worker's contribution, and a computation of its probable or actual market value.

B. Technical work.—Already emphasis has been laid on the pedagogical desirability of having technical work—mathematics, drawing and art, sciences, laboratory manipulation, and even English on the formal or expressive side—grow out of and manifest its relations to the concrete work, in the intermediate stages of industrial-arts training. If this point of view is correct, it is evident that we may expect the evolution of more than one kind of shop mathematics, shop chemistry, shop study of physics, etc. The development of this principle

will be persistently opposed by those who believe that the pedagogical order toward mastery is thru the subject studied first in its pure form. From this point of view, mathematics must be studied as pure algebra, geometry, etc., first, then its applications; a course in general chemistry must precede applied chemistry in dyeing, foodstuffs, etc. Experience thus far seems to demonstrate that when the available time of pupils here under consideration is taken into account, as well as the importance of securing vital interest in such studies, the most effective methods of approach in the technical studies is along the lines of their application, with comparatively short periods of time devoted to the study of pure forms.

In view, too, of the limitations of time, it will be necessary in planning the technical work for each group of related industries to discover what technical studies should enter, and to what extent each one should figure. There can be little doubt that all vocational education is today, in this respect, affected by certain generalizations which emanate from the trade schools connected with wood and iron work. Mechanical drawing, for example, figures largely in these industries, at least so far as the ability to interpret drawing is concerned; but there may be entire groups of industries in which mechanical drawing has little or no place as a vocational subject. Similarly with regard to certain sciences; chemistry may be of most fundamental importance in some groups of industries, and quite superfluous in others.

C. General vocational studies.—Around each group of industries may be gathered historical, geographical, economic, and sociological materials which, while not conferring immediate efficiency, do undoubtedly give vocational intelligence and vocational ideals. The evolution of any industry, or group of industries, may be studied (history); the present distribution of such industry over the world, the varying conditions found, the new movement in its sources, its materials, its machinery, its social importance, etc. (geography); rates of compensation, union conditions, relations between employees and employers, competition, effects of immigration, industrial hygiene, etc. (economic)—all these may be made appropriate objects of reading and study. To this group may be added, in certain lines, studies in the kind of English which has vocational significance.

The above program does not preclude the development in these schools of studies that frankly have no vocational significance. English literature, music, art, history, science, may, if time permits, be studied as cultural subjects, as resources against time of leisure, or, as sometimes denominated, avocational subjects. When we have once settled the program of vocational studies, we may find time to introduce others which are thus frankly non-vocational. Under this head might be placed social or civic studies which contribute to the making of the useful citizen. But for the present it seems that civic studies, sufficient for the type of youth here under consideration, can best be given in connection with vocational pursuits themselves, and hence in the division "general vocational studies."

It should be obvious that a program of general vocational studies should aim to reduce formal and detailed work to the minimum. For example, large numbers of mechanically inclined boys delight to read accounts of invention, development of machinery, industrial movements in other parts of the world, etc. Semi-popular journals like *World's Work*, *Scientific American*, and others, should contribute material to this end. With the arising of a demand, there can be no doubt but that we shall have an abundance of good reading materials for each principal field.

VII. RELATION OF INTERMEDIATE INDUSTRIAL EDUCATION TO OTHER FORMS OF EDUCATION

American educational theory is committed to certain ideals of unified education. Consequently it will be asked as to what are the relations of the education described above to the various other forms already recognized. Some of the questions in this connection have already been partially answered.

A. The vocational education described above may be thought of as exclusive of physical, cultural, and civic education, as these are commonly exemplified. Theoretically there is no reason why industrial or other forms of vocational education should take exclusive possession of the field at any time. Practically, in the present development of educational thought it seems almost necessary to make this separation in order to give the vocational education full opportunity to grow.

In schools like Hampton Institute vocational education is effectively correlated with liberal education (cultural and civic forms). Experiments have been tried, and with some success, of having schools divided on the basis of a half-day for ordinary liberal training or academic work, and half for vocational training. Vacation-school work has in places taken the form of vocational work; which gives in the entire year's program an alternation of liberal and vocational training.

B. It is commonly assumed that vocational education does not contribute to culture and to civic development. But this position is not fortified by evidence. The cultural standards assumed are apt to be those appropriate to people of economic opportunities and cultivated surroundings. What is culture when thought of in connection with children who may not undertake the opportunities of a secondary education? Many keen observers insist that in the true sense vocational work, as above described, is essentially liberal in character, that it can be made to contribute the elements of an active culture as well as civic insight and knowledge.

C. What will be the relation of intermediate industrial education to manual training? Present tendencies indicate that manual training will become richer and assume perhaps a more vocational form, occupying a larger place in the program. It is also probable that manual training, as specialized for boys, will be so administered as to reach boys of from twelve to fourteen, without reference to grade. In this case, the bench and shop work will in

many cases become a foundation for the industrial-arts work. It may be assumed, too, that with the establishment of industrial training, this will react back on the manual training, compelling it to assume a more definite and pedagogical character, and possibly causing it to be somewhat differentiated according to the probable future career of the pupils involved. The manual training now found for girls (household arts) is, for some industrial pursuits, a fairly direct preparation. The fundamental difference between the two forms of education consists mainly in the fact that manual training is an instrument designed to form a part of the general training of all children, while industrial training is more or less specialized instruction which deals with selected groups.

D. Can industrial-arts education of intermediate grade be related to the higher technical training? Many educators feel that no system of education should be allowed to develop blind alleys, and they wish to see the way kept clear for any youth to pass from one school to the next higher. While in many cases this is an impractical demand from the standpoint of vocational education, it is by no means impossible to pass youths from intermediate industrial-arts training into the higher forms. While they lack something of the technical training, they will have gained on the side of a knowledge of practical conditions. In Germany, it is well known, a large number of the youths who take the intermediate technical training (not that of the engineering level) must have served a period of apprenticeship. Then the chosen ones from among apprentices are admitted to the middle technical schools.

E. As noted before, the type of school or course under discussion does not assume to fit completely for any one trade. Theoretically at least it will be often possible to differentiate in the last part of the work so as to give some amount of special trade training.

VIII. ORGANIZATION AND ADMINISTRATION

Vocational education under private and philanthropic auspices is commonly organized in separate and specialized schools. When it becomes a part of public education, several schemes of organization and administration become possible.

A. The vocational school may be completely separated in the administration and support. This type is illustrated in certain state schools, which have their own boards, and to which authorities make assignments of funds. The California Polytechnic has thus a completely separate organization. At times it has been proposed that a separate state machinery of administration was necessary to initiate and carry on vocational education. It is argued in support of this position that the administration of the newer type of education requires a different point of view, and different estimates of educational values from those which ordinarily prevail. Also that the degrees of affiliation with business and practical conditions is such as to be most effectively accomplished by having separate governing boards and specially provided funds.

There are a variety of reasons why it may be expected that the state rather than the locality will contribute more to this form of education than to ordinary forms, the chief argument being found in the mobility of labor.

B. The vocational education may be carried on by the regular educational authorities, but in distinctly separate schools, under principals or directors who pursue the distinctly vocational aim. Hitherto it has been hard to accomplish this form of organization in such a way as to produce distinctly vocational education. Only part of the work has been vocational in character, the aims of liberal education being pursued to the relative exclusion of others. But the intermediate schools now being organized in New York, under control of state and local departments of education, provide a variety of checks by which the vocational character of the school can be preserved. These are chiefly: (*a*) state inspection by a special agent of the state education department, (*b*) the provision that the vocational work must be carried on by a separate organization, and (*c*) the requirement that the shop teachers shall be men with practical training and experience in the industries.

C. It has often been proposed that vocational education should be organized simply as a phase of a complete educational scheme, much as manual training is now part of the general program. Various suggestions along this line have been made: (*a*) That half of each day be given to work of the academic character found in the upper grades, and half to shopwork, household arts, etc.; or (*b*) that the ordinary school day be kept for its present purposes, and that the hours from three to five and perhaps Saturday forenoon be devoted to practical work; (*c*) the tendency where vacation schools have been established to use the regular school buildings and equipment during the summer months for practical or vocational work.

Regarding these plans, it has been urged that in the present temper of schoolmen the vocational work could hardly be expected to meet with sufficient sympathy and support, and that the traditional subjects, because they lend themselves so effectively to ordinary methods of teaching would displace the vocational work. Probably this will not always be the case; when vocational training shall have established its own methods and content it may be able to hold its own. Furthermore, programs like the above seem better adapted to elementary vocational work when that shall have been established. In the meantime, much may be said in favor of having the intermediate industrial-arts school under its own roof, and working completely under its own program. There is thus provided an industrial atmosphere, and such a school may be expected to develop its own social spirit. It may require time and tact to prevent the growth of obnoxious class distinctions between the patrons of two different kinds of schools, but this is a problem that has already been met and solved in the universities of America, and in the introduction of scientific and commercial studies into secondary education. Let vocational education once establish itself, and it may become quite possible to provide for an amalgamation of the various types of effort so as to secure social unity and the

maximum of administrative economy; but that cannot be accomplished at the outset.

IX. COST AND SOURCE OF SUPPORT

A. The development thus far obtained in intermediate industrial-arts education is insufficient to justify conclusions as to its cost of support. (*a*) The plant, while not necessarily as elaborate as that requisite for secondary technical education, will, owing to additional floor space required, be relatively expensive for each pupil. (*b*) Equipment, while not necessarily more elaborate or expensive than that now found in technical secondary schools, will have to be found in greater amount in proportion to numbers of pupils engaged, owing to fewer sections that may alternate with same tools. (*c*) Teachers will probably be confined to sections as small as those of the technical high schools, and, where the aim is to have the work eventuate in usable products, it may be necessary to have still smaller sections. On the other hand, there seems to be no certainty but that in some forms of vocational training, when textbooks, guides, etc., shall have been well developed it may prove possible to considerably enlarge the sections under each teacher. It will increase the cost in outlay for materials, especially where useful concrete work is attempted. But under some circumstances profitable returns may be had from this work.

The Manhattan Trade School for Girls, more directly vocational than most intermediate schools, sells enough products to pay more than half the salary-list of the school. In this case, the cost of materials used is especially large. The woodworking school in Rochester contemplates supplying a variety of things needed by the school and other public departments of the city. The textile school in Columbus, Ga., is able to turn out products that can be used advantageously in dressmaking departments of the school. Few schools in metal have so far shown any capacity to do profitable work, the exceptions being reform schools which contribute to their own repairing, blacksmithing, etc. Another exception might be found in the negro schools of the South (Hampton, Tuskegee, etc.) which dealing with a large type of youth, are able to do productive work in metals.

B. The sources of support of vocational education exhibit great diversity in the United States. Technical high schools are commonly supported by city districts; secondary education in agriculture is commonly supported by the county area, or township area, with some state support. A number of states have state-supported technical schools (Academy, Idaho; Textile Schools, Massachusetts; Polytechnic, California; Industrial School, Texas, etc.). Higher agricultural and mechanic-arts education is carried on in many states by a combination of state and national support, and pending measures in Congress look to the extension of national aid to agricultural education of an essentially secondary grade.

The Commissions that have investigated the subject of industrial educa-

tion are agreed as to the desirability of combining state and local support. Except in New York, detailed plans do not yet appear.

The reasons for local support of industrial-arts education as contrasted with agricultural, are found in the concentration of taxable property in manufacturing areas, and the probable return of outlay in this shape in the increased productiveness of the local industries. But the mobility of labor, so characteristic of America, makes it desirable that a considerable portion of the support should come from the larger area benefited. In fact, so potent is this consideration that it is not improbable that in time it will prove highly economic to enlist national aid to some extent in furthering industrial-arts education, owing to the tendency of labor to move from one state to another. But any scheme of appropriation of aid from state or nation should be accompanied by provisions for local contributions, and should involve inspection by the larger units contributing. It would appear that some control, in the way of final approval, on teachers employed, courses adopted, etc., should emanate in all cases from the state authorities.

A fundamental principle involved in securing of state aid for industrial education is found in the fact that such aid, more directly, at least, than in any other forms of education, must serve in the nature of a social investment, the returns of which will speedily be found in the increased productive capacity of the industries benefited. From the standpoint of economics it may be doubted whether any other form of social outlay of money will so certainly produce a large return, provided the education given is of the right kind.

X. CO-OPERATION OF SCHOOL AND SHOP

In Germany, it will be recalled, a considerable part of vocational training is effected through co-operation of school and shop. Boys are apprenticed to the shops, and are either required to take the school work in the evening, or employers are required to release the boys for a certain number of hours on each of two or more days each week. Under this arrangement the concrete work given in the shop is real and productive; while the technical work of the school can, if desired, be made to correlate intimately with it. The successful issue of this arrangement assumes a considerable spirit of co-operation between school and employer.

In America we find yet few attempts at this co-operation. It is a matter of common knowledge that one engineering school has made arrangements for joint training with the shops of its locality. The high school in Fitchburg has also effected a similar arrangement with shops in that city (see p. 80). It will also be recalled that various large stores and shops have established schools within their own premises wherein their youthful employees might receive technical or academic training to supplement the practical learning acquired in the practice of their work.

These are but indications of possibilities in the field of vocational education. Theoretically, there are few reasons why this form of combined shop

and school training should not be extended. Practically, the conditions of employment in American industries are such at present that it is very doubtful if many such lines of co-operation could be developed. The employer is averse to the presence of young workers unless these are quite profitable to him. For the type of youth here under consideration, the school would manifestly have to have the final authority in controlling his time and education. The school would have to provide for a sufficient variety of work in the shop to prevent mechanization, and to preserve the industrial aspects of the concrete work. The employer usually seeks complete specialization of his workers. The most that can be said is that a goal is presented here whose attainment would be economically and otherwise desirable. But it is evident that a full co-ordination of the forms of control over children would be necessary. Child-labor legislation, compulsory-education legislation, the efforts of employers, etc., would all have to have further adjustment than is possible at present. For example, the law designed to protect children from the dangers of power machinery may, for the present, operate to exclude children in the industrial schools of New York State from power machinery, in these schools —certainly an undesirable result. This entire field is one for further local experimentation.

XI. SCHOOLS ALREADY EXISTING

Schools already existing, from which suggestive procedures can be derived are not many. A few types may be considered.

1. The Hebrew Technical Institute of New York City. This school "does not aim at teaching the higher branches of mechanical, civil, or electrical engineering." "We expect that the great majority of our graduates will ultimately find positions as skilled artisans, etc." To enter this school boys are not required to have completed the elementary course, but must have a fair education along common lines. They may be as young as twelve and one-half years. During the first two years of the course they study the "subjects which will be useful to them in whatever mechanical pursuits they may finally choose." "In the third year they are encouraged to give special attention to that branch of work which seems most agreeable and suitable for each." A part of the work is academic, embracing not only general and technical vocational studies ("Studies of Woods," industries, and natural resources of the United States; drawing; applied science, etc.) but also cultural studies, such as English, history, Jewish history, and civics. A large part of the work is concrete, based on the trades dealing with wood and metal. This concrete work in the last year assumes a specialized character, as instrument-making, practical electricity, etc. Some attention is given to the physical well-being of the pupil, especially in the shape of the provision of a hot lunch at low rates, and the compulsory use of shower baths. The day approximates the working conditions (seven hours for the upper-class students), as does also the year, which is longer than the ordinary school year. Obviously, the school is adapted to produce good apprentices, and to lay the foundations for industrial growth. Its long history proves that it has been successful both in adhering to its original aims and in realizing these aims. It would appear that its conduct involves no conditions which could not be realized under a public-school system.

2. The Manhattan Trade School for Girls, New York. Because the industries for which this prepares involve less extensive technical knowledge, little-developed apprenticeship, and the possibility of entrance at a comparatively early age, this school approximates

more the definition of a trade school, tho its members do not exceed fourteen years of age on entrance, and need not have completed the work of the elementary school. Three of its departments rest fundamentally on textile industries, and another on the industries which employ paper, gum, etc. Academic work is reduced to a minimum, but arithmetic, drawing, and some other studies are followed, largely with reference to their bearing on the particular industries followed. The day and year approximate industrial conditions. It is claimed, and with reason that, for the type of student reached, and the economic and educational conditions involved, the concrete work itself and the related academic work have a significant cultural value. Children are received at fourteen, stay approximately one year, and the school undertakes to follow them into the industry, and to keep track of them afterward. The products of the school are primarily usable and salable, the school aiming to contribute something to its support by sale of products. The sale of products is adjusted so as not to demoralize market conditions. In the final work of each student, rate of output as well as quality is measured, so as to approximate industrial conditions as far as practicable. This school contributes directly to the physical and social education of its students. Physical exercise, shower baths, and meals are provided in such a way as to bear directly on health conditions. Furthermore, careful instruction in hygiene acquaints the girl with conditions of maintaining health in work, the importance of which is borne in upon each student. On the side of social education, each girl is especially instructed, in connection with the occupation into which she is going, on matters of relation to employers, and to fellow-workers in unions, etc. Owing to the possibilities of correlating much of this teaching, as well as that in hygiene, with actual industrial conditions, they become especially vital to the pupils.

3. The Secondary Industrial School of Columbus, Ga. This is a part of the public-school system, fitting boys for two fundamental industries, mechanical work with wood and iron, and textile work. A course of three years, begins with children of fourteen. More than half the work of each day is concrete in character. The day follows working conditions, and the year lasts eleven months. The textile schools produce cloth for sale, tho some of it is used in other departments of the industrial school. The superintendent believes that the school might to some extent follow the Roycrofters' plan of producing articles which should be of use and would be especially valued because of their fine or individual character.

4. New Bedford, Mass., Industrial School. This school contemplates a four-year program, but each year's work enough of a unit to be profitable to any pupils who take it. Located adjoining high school, and some attempts will be made to avoid social segregation, but the vocational aim of the school will not be lost sight of. It prepares primarily for industries resting on wood and metal; there will be no manual training, and no exercises apart from the making of products. Academic work based on the concrete or shop work. Along the lines of productive work will be the finishing of the interior of the building, which is yet unfinished. Practically trained men will give shop work, and in some cases at least, related technical work. The school to receive one-third of its support from the state, and it is hoped eventually more. Its management is under the high-school committee of the local board, designated for this purpose by the Council. The school will aim to prepare for the better class of artisan work.

5. Rochester Factory Schools. The first school in the scheme was for boys from fourteen years of age who were in the sixth, seventh, and eighth grades, and who were manifestly of a mechanical turn of mind. A two-story building was set apart for the school, the entire lower floor being equipped for shopwork, the upper floor for academic studies related to the vocational work. The weekly program is evenly divided between shop and academic work (shop, fifteen hours; mathematics, four hours; drawing, five hours; English and spelling, five hours; and industrial history, one and one-quarter hours), but almost all the academic work is based on industrial conditions or needs.

The lines at present mapped out (April, 1909) are: (*a*) elementary woodworking,

(*b*) advanced woodworking, (*c*) elementary mechanical and electrical work, and (*d*) advanced mechanical and electrical work.

School is held six days each week, on five of which the hours are from 8:30 to 3, with half an hour intermission. The products of the woodworking shop are to be usable and at present are supplied to the schools of Rochester. Most of the teachers have had practical experience as mechanics or workers in other lines. The local management of the school is under the Board of Education.

6. Intermediate Industrial School of Albany, N.Y. This school plans to take two years of the elementary period, and two years beyond, children entering at or about thirteen to fourteen. The work of the first two years, as proposed, is about two-thirds vocational—technical and concrete; and one-third general—geography, history, literature and composition and civics. Mathematics and drawing are taught with regard to vocational uses, hence are described as technical subjects. Part of concrete work is varied so as to form, at option, beginnings of training for the printing, or leather-working, or woodworking, or metal-working occupations. But so far, in the last two years, the courses seem to plan mostly wood and metal-working callings for boys, and textile industries and household arts for girls.

7. Fitchburg High School, co-operative work. First year is spent wholly in school, remaining three years have program in which each pupil takes alternate weeks in school and in shops. Boy is paid for shop work at from ten to twelve and a half cents per hour. School work is English, current events, commercial geography, civics and American history, and technical subjects (mathematics, drawing, physics, chemistry, mechanism of machines, etc.). An arrangement by which boys are employed in pairs, and by which on Saturday the then shop boy locates his successor for the next week in the work, tends to preserve the interests of employers.

8. Other schools. A variety of private or philanthropic schools offer suggestions for this work. The Hebrew Technical School for Girls in New York deals with girls graduated from the elementary schools, and has courses two years in length. Its commercial courses are most popular, but its "technical courses" leading to textile occupations are successful examples of what may be accomplished in two years. The program is not limited to vocational work, cultural subjects receiving attention. Schools of the type of the Wilmerding in San Francisco are suggestive as to types of work, but the majority of the students in such schools are above the age of sixteen and they consequently do not represent methods most suitable for younger pupils.

Three-year technical courses are found in some of the high schools of New York City, while the Washington Irving is exclusively a technical and commercial school for girls. Here a considerable part of the program is vocational, and toward the last its work specializes somewhat. But a description of its aim properly belongs elsewhere.

III. REPORT OF SUBCOMMITTEE ON INDUSTRIAL AND TECHNICAL EDUCATION IN THE SECONDARY SCHOOL

The committee has endeavored to study the problems of industrial and technical education in secondary schools:

1. By ascertaining as thoroly as possible the needs and requirements for secondary and technical education.

2. By collecting data regarding methods of instruction and the practices of existing schools within this field, and information regarding the occupations and careers of their graduates.

3. By collecting opinions as to the following points: notably regarding the extent to which the technical courses and the academic work of the schools should be made more directly vocational; whether the time at present allowed to handwork is sufficient; whether the results are satisfactory; the extent to which close correlation is practiced thru the entire school; and whether vocational work can best be done in existing schools or in separate schools.

4. By collecting views on ways and means of making the existing schools and their equipment more serviceable to the public.

5. By inquiring into the needs of girls as well as of boys.

6. By collecting evidence regarding the demand for evening work.

DEFINITIONS

From careful analysis of the existing practices in secondary, industrial, and technical schools, and of the needs of this field of education, as evidenced by the testimony and expressions of opinion from a great number of educators, the committee has formulated the following definitions of three types of schools:

A. The *manual-training high school*, or the *manual-training school*, is a school of secondary grade in which a greater or less amount of handwork is included in the curriculum and in which the greater part of the academic instruction is similar to that found in other high school and college-preparatory schools, neither the manual nor the academic instruction being especially planned to be of direct vocational service.

B. The *secondary technical school*, or the *technical high school*, is a school of secondary grade having the distinct purpose of preparing its pupils for industrial leadership—that is, for positions in industrial life requiring skill and technical knowledge and of greater importance and responsibility than those of the skilled mechanics. In such a school the instruction deals not only with the important manual operations, but also with those principles of science and mathematics and their direct applications to industrial work that will help to prepare the student for successfully mastering the more fundamental processes and problems of those groups of industries which the school is designed to reach.

C. The *trade school* and the *preparatory trade school* are schools which have for their definite purpose the preparing of boys or girls for entrance to the skilled mechanical trades and which deal with their pupils during a briefer course and allow for earlier preparation for practical work than the technical high school. Such schools place their greatest emphasis upon practical handwork instruction under conditions resembling as closely as possible those prevailing in commercial practice. Such schools relate the academic instruction at every point closely to the practical work, and include little that is not of direct bearing on trade work.

CONCLUSIONS

As a summary of its investigations, the committee submits the following conclusions:

1. From a study of the data obtained regarding existing practice, it is

apparent that, with a few notable exceptions, practically all of the existing industrial and technical high schools now operating in the United States as parts of the public-school system, should be classified as manual-training high schools.

2. From the evidence obtained, it is very clear that these manual-training schools are giving a very useful and highly important service.

3. It is also clear from an analysis of the data obtained, that these manual-training high schools, as a rule, do not in any degree cover the field or accomplish the purpose of either the secondary technical high school or the trade school.

4. At the present time, by far the great majority of manual-training high schools—practically all of them, notwithstanding the distinction in name—differ in no important educational particular from the other high schools in the United States; they admit pupils of the same general type, of the same age, and of the same preparatory training. These schools aim to develop the same type of intelligence, the same habits of thought, and the same kinds of ability as do the other high schools; and their graduates are found in the same wide variety of occupations. While the subjects taught are not identical, the manual-training schools are nevertheless essentially schools of the college-preparatory type in which the instruction, mechanical as well as academic, aims to provide the mental equipment of the kind required of those who would continue their studies in higher institutions. All of the work, as a rule, is measured by college-preparatory standards. The fundamental aim of these schools is a general training, and specific training for industrial occupations is incidental. In filling this function, these schools are serving a useful purpose in that they offer a larger variety of means by which pupils who are capable of higher study can obtain intellectual training and preparation for higher institutions thru subjects which are congenial and adapted to their tastes. Important as this function is, the committee believes that the evidence which it has collected makes it entirely clear that the field occupied by the manual-training school is entirely distinct and different from the field to be occupied by the secondary technical school on the one hand and the trade school on the other.

5. The evidence shows that there are very many children who should be, by their school influence, directed toward industrial life and prepared for some sort of efficient service in it.

6. The committee has obtained from a great variety of sources what appears to it almost overwhelming evidence of the very great, in fact, imperative, need of both secondary technical schools and trade and preparatory trade schools, if all of the youth of the land are to be served with anything approaching equal educational opportunities.

7. The secondary technical school, or technical high school, should have for its main object the preparation of its pupils for efficiency in a large group of important positions in industrial life. Its aim is to cultivate industrial

intelligence and those qualities which are essential for efficient industrial leadership rather than abstract reasoning power. It differs from the manual-training high school in the following important particulars:

a) Pupils are encouraged to enter technical high schools with a definite purpose of preparing for industrial careers.

b) It frankly and definitely abandons all traditional college-preparatory work.

c) The time now devoted to foreign languages is given to more thoro training in English, industrial history, and economics, and such principles and applications of science as are likely to be useful in an industrial career.

d) There is very little instruction in pure mathematics or pure science, but instead, a large amount of time is given to applied mathematics and applied science, all of which is closely related to the practical work of the course.

e) So far as possible, all of the instruction, whether in English, history, economics, mathematics, or science; whether in classroom, shop, or laboratory, is so designed as to be directly usable in the kind of occupations in which the graduates of the school will naturally seek employment.

f) There is the closest possible correlation between the branches taught in the school.

g) Such schools will necessarily take on varying forms in different localities, since the needs of the community must, to a large degree, determine their educational procedure.

8. From the evidence which the committee has obtained, it is clear that boys who enter mechanical trades, almost without exception, leave the public schools before graduating from the grammar school. It should be recognized therefore that the beginnings of trade education, if such education is to articulate with our present school system, must be had in schools that will draw their pupils largely, if not entirely, from the class of boys who have not graduated from elementary schools. Such schools (intermediate industrial or preparatory trade schools) cannot therefore be really parallel with existing high schools. In order to prevent possible misunderstanding by pupils or the public, the intermediate industrial school should be frankly recognized as independent in its requirements for admission and in its courses of study. Its courses of instruction must be short. This is essential if such schools are to come within the economic possibilities of boys and girls who will follow manufacturing trades, and only such pupils should be admitted as can satisfy the principal of the school that they are the right kind of material out of which to make good workmen, and are likely to spend their life in mechanical work.

The courses of study for this type of school must always be sufficiently intensive on the vocational side to give them the necessary economic value while at the same time the instruction should be suited to both the mental and the physical capacities of pupils from fourteen to sixteen years of age. There should be in the curriculum, therefore, nothing that is not of direct assistance for preparing pupils for work in the industries. Such mechanical drawing,

mathematics, applications of elementary science and English as are necessary, should be given with the direct purpose of increasing efficiency in the more concrete and practical parts of the course. In other words, the spirit and the method of the shop should be carried as far as possible into all of the instruction given in the school.

Beyond this point (sixteen years of age) comes the possibility of true trade schools in the sense of school training as a partial substitution for apprenticeship or the learning of a trade in commercial practice. Whether or not these last schools will, in the future, become important factors in training large numbers of industrial workers, and whether or not they will become recognized as a proper element in the American public-school system, it is clear that their aim must be to impart the maximum of specialized skill and technical knowledge in the minimum of time. In order that it may be economically possible for the future workman to attend such schools, their courses must be highly specialized and the instruction must concentrate upon the development of skill and knowledge of direct practical bearing.

9. The evidence collected by the committee shows an urgent need for evening trade and technical classes for bettering the opportunities of men and women already employed in industrial occupations during the day. The committee believes that one of the most important services which can be rendered by existing schools that have shop and laboratory facilities, is to extend the use of such equipment thru practical courses of evening instruction.

10. The main ideas embodied in this report are applicable to girls as well as to boys.

11. The problem of secondary industrial and technical education calls fundamentally for a clear distinction between elementary and secondary education which shall take account of the significant differences of children in economic resources, and in the interests and aptitudes that appear before the end of the present period of elementary education. Such a distinction points to the end of the sixth year of school as the appropriate beginning of secondary, that is differentiated education; it does not in any sense contemplate a six-year course as the maximum provision or requirement for any group of children.

I. The subcommittee sent letters to prominent schoolmen thruout the country—men who occupy supervisory positions in cities carrying on technical work, as well as men who are presiding over secondary technical schools, manual-training schools, and industrial schools—inquiring whether there is need for investigating the spirit and purpose of secondary industrial and technical education and for formulating a more definite plan for future extension of industrial work in our secondary schools.

One superintendent of schools writes as follows:

> I believe that the committee should formulate a definition of the technical high school, perhaps both from an inclusive, as well as an exclusive, point of view. At the Chicago meeting of the Department of Superintendence in 1909 a number of superintendents

expressed a desire to do something of this kind but were in doubt as to what to do. A strong definition of what constitutes a technical high school will go a good way toward clearing the atmosphere and will be helpful in pointing out the way to those who do not see the light. If this is to be the primary aim of this report, then the data we need relates to what is now being done in the so-called manual-training high schools, with reference to kind of mechanical work offered, the proportionate amount of time devoted to it, and the groups of academic studies offered with their relation to the shop activities—that is to say, whether the academic instruction is based upon the requirements of the shop or whether it is isolated and running in a parallel column.

A principal of a large manual-training high school says:

There is no uniformity in schools called by the same name; no uniformity in the number of hours devoted to shopwork or in the character of the work. My own experience, not supported by inspection of every such school, is that a school which is a manual-training department of a high school is inferior in shopwork and drawing to what might be called an independent manual-training school, such as the Indianapolis school. Especially is this the case where the manual-training department has been added to the older academic department. Where the principal of the older school is not fully in sympathy with manual training or, if in sympathy, does not fully comprehend the movement, the result is foreordained. Here, as everywhere, the principal makes the school.

A professor of education in a university writes:

There is no definitely established policy with reference to secondary technical instruction in any section of the country. Educators in general seem to be vacillating between two extremes, one of which looks toward the making of the handworking courses purely vocational; the other attempting to install the work in the high school as at present organized without materially changing the present status, and hence, of course, making it merely an adjunct to the present work. In the latter case, which is by far the more prevalent, the work fails to be as satisfactory as it ought to be, largely because it is given too little attention and really has not become an integral part of the school work.

The dean of a college of engineering writes:

We ought to get an accurate definition of what we are trying to do. If the manual-training high schools are trying to solve the problem of industrial education, they ought to say so, and if the work is cultural, they ought to say so; at least, let them define what they are attempting to accomplish. If the technical high schools are trying to solve the problem of industrial education, let them say so. If they are training men for colleges, let them make a definite statement that they are not training men for the industries. So far the public-school people have been bowing in one direction, saying, "Lo, our work is cultural," and then in another, saying, "Lo, our work is industrial." Really, what is it?

The president of a technical college who has made a careful study of industrial work in secondary schools writes as follows:

No accurate definition has ever been given to the terms "manual-training high school," "technical high school," etc. These names generally refer to high schools which have, more or less, manual-training work connected with them. So far as I am aware, there is no uniformity in regard to the amount of this work, altho generally these schools give mechanical drawing, turning, pattern-making, machine-shop work, forging, and in some cases, foundry work. Most of these high schools are of the regular type which give the usual high-school courses and fit for college; in addition, they give more or less manual-training work. There is nothing to distinguish them from any other high school except that they do give a little of this practical training. There is need of formulating some definition.

II. These letters are typical of many other replies and clearly show that the work of this committee is warranted. The next step was to obtain, by inquiry, the present status of the manual-training high school. The replies to letters sent out by the subcommittee show a marked variance in the purpose and methods involved in these schools. The original manual-training high school, as conceived by Dr. Woodward, Charles H. Ham, and Dr. H. H. Belfield, has been duplicated or modified in many cities of the country. A word from Dr. Belfield is of interest at this point:

> There was the desire on the part of some of us to offer to boys what was called a more "practical" education than that afforded by the ordinary high school, while avoiding a trade school, to give the boy an acquaintance with the forces and conditions of modern life, to give him the use of his hands, or, as Dr. Woodward phrased it, "to put the whole boy to school." Our thought implied the broadening, not narrowing, of the school curriculum. For many years I had been impressed with the fact that the high school and the academy fitted a boy for entrance upon professional study only; that as comparatively few boys expected to enter upon professional life, very few boys entered the high school, and a much smaller number graduated therefrom. I thought these facts showed a great weakness in the public-school system. I found many of my business acquaintances entertaining the same opinion, but I failed to win to my belief any of my school friends. Two facts are here worthy of mention: (1) The Commercial Club of Chicago, which founded the Chicago Manual Training School, was composed exclusively of business men; (2) I resigned the principalship of the Chicago North Division High School to become director of the proposed Chicago Manual Training High School, against the advice of every schoolmaster friend I had. The original manual-training school was designed to develop all of the boy's powers —to fit him for life, but not to teach him a trade. One hour a day was given to drawing, two hours a day to shopwork, every day in the school year. With these branches were taught, what we considered the fundamental studies of a high-school course—English, with Latin and French elective; mathematics, including arithmetic, algebra, geometry, trigonometry and for those able to take them, analytical and descriptive geometry; physiology, physics, chemistry, history, government, and political economy. The course (I speak now particularly of the Chicago school) was not originally designed to fit for college, but, to my surprise, I found that about 50 per cent. of my graduates, beginning with my first class (1886) entered college, the greater part of this 50 per cent. going to technological schools—the Massachusetts Institute, Sibley College, Michigan, Purdue, etc. Most of the other half went directly into business. Very few entered a shop, and these, by reason of their intelligence, rose at once to be foremen, managers, etc. None, so far as I could learn, remained long at the bench. The academic and shop courses were co-ordinated as far as possible, and it is astonishing how much connection skillful instructors can find or make between shop, laboratory, and classroom work. The school always seemed to me to be a unit. That the scholarship was, to say the least, not injured by the shopwork is clearly shown by these facts: graduates of the school entered, with ease, the best technological schools in the country, maintained themselves with ease, and graduated with credit, frequently with honor. The shopwork was always given credit in the higher schools. In some the boys were excused entirely from shopwork. Credit was also given for drawing, so that it was not unusual for the four-year course of the technological school to be completed in three years. The comparatively small number of graduates who enjoyed scientific, literary, and classical courses in Harvard, Yale, Princeton, and other institutions also maintained themselves. It was to satisfy such that Greek was introduced as an elective in the Chicago school.

This bit of personal history from an authority such as Dr. Belfield, points out the natural development which has taken place in the manual-training

high-school movement. At the present time some of these schools fit for all colleges; some limit themselves to preparation for technical colleges; some have strong commercial courses; and some correlate their shopwork with the academic work. Evidently all of them attempt to give their pupils an all-round or symmetrical education by means of a joining of the humanities with handworking courses. They attempt to cultivate dexterity of hand and eye along with scholarship and mental acumen.

The investigation of Professor Ballou, of the University of Cincinnati, brings out the variety of practice in regard to manual training in the high school. This investigation shows that there is no uniformity, and almost an entire lack of definite aim in the relationship between the manual-training course and the rest of the school work. The committee quotes the following from the results of his investigation:

> There are 33 cities which give the subject of manual-training one and a half hours per week. There are also 33 cities which give three hours to this subject. In the first case a double period is given, and in the second, of course, two double periods. There are 25 cities which devote two hours to the subject and 20 cities that give four hours a week. Those that allot to the subject two and a half hours are eleven in number. Those that give the subject twice as much time, or five hours per week, are twelve in number. The number of cities that give seven hours per week is 25, which means about five one-and-a-half periods, or five times as much time as the 33 cities that give it one and a half hours. Out of 207 cities that offer manual training in the high school, 159 of them permit the students to elect such a course. In other words, 77 per cent. of the cities permit the students to elect the subject of manual training.

Nearly every reply brought out the point that the manual-training high school has no clearly defined status; and that the definitions of the different types of schools are largely a matter of personal opinion. The shortest definition of a "real manual-training high school" which was given to the committee was the following: "A high school with a course in manual training in lieu of Latin and Greek." A number of schoolmen reported a manual-training high school as being a school in which manual training is intended as an aid in general development; that is, that the handwork is virtually a department of an academic high school just as Latin is a department in such a school; that five double periods per week are commonly devoted to this work, three of which are usually given to shopwork and two to mechanical drawing: and that the aim is not so much to develop technical skill as to give acquaintance with materials and the use of tools, the handwork being regarded primarily as a training of the motor side of the student and as furnishing general information of a practical nature. In brief, the manual-training high school, in the minds of these men, is one in which shopwork and drawing are offered mainly for the purpose of supplementing other studies for the so-called cultural purposes of education.

Such a manual-training high school does not differ radically from the regular high school with a manual-training department, for both are simply secondary schools in which the curriculum combines various elements of manual and academic work primarily for purposes of general training.

The principal of one of the largest manual-training high schools in the country writes:

> Our school is claiming to make pupils better citizens, to open up to its graduates opportunities that would not be possible without the training they get. The academic studies, with the exception of Latin and Greek, are the same as those given in any high school, and the manual training is given for educational and disciplinary purposes only.

He agrees with another principal, who states that

> manual training makes pupils better citizens; that the educational work of the school is of the first order; that it is not, in any sense, a technical high school, and that it supplies the higher education demanded by those who are preparing for advanced technical or university work.

It is of interest to compare these statements with those which come later when the question of technical high schools is considered.

A fundamental difficulty in the situation seems to be that many schoolmen believe that every high school should have some manual training and that every manual-training high school should prepare for college, the result being that the layman is confused as to the part that the manual-training high school plays in the preparation for industrial vocations.

As a whole the replies received by the committee seem clearly to indicate that the manual-training high school is ordinarily little more than a regular high school with a manual-training department. As one writer states it:

> I have come to be of the opinion that most of these schools were started as a sop to the demand on the part of the public for more practical instruction in the public-school system. The presence of machinery in a school looks practical, and that is about as far as it goes. While I can see a cultural value in manual training, I do not think it was ever intended to meet the call for industrial training, and if it was, it has certainly fizzled miserably. My own observation leads me to believe that these schools turn out people who disdain to be mechanics and who would rather be inferior draughtsmen.

Another of the replies has the following:

> The manual-training high schools are too elaborate, too expensive, in a way, too dilettante, to lead to anything other than one of the industrial professions. Often they do not even prepare for training in one of these. They are much more like schools than shops, whereas they should be more like shops than schools. In buildings that have nothing of the appearance of the shop, they have machinery, tools, equipment, atmosphere, theory, and practice, which differentiate them widely from the shop. They are managed by men who are more teachers than workmen, when they should be managed by men who are at least quite as much workmen as teachers. Often the machinery and tools make an interesting show without being needed or effectually used, because there is not a skilled workman to use them. Many a time a principal or teacher pleads for an appropriation with which to buy machinery, tools, and other equipment, without any definite theory or plan or end in view. If refused, he would feel outraged and become a martyr. If given the money he studies catalogues and sees agents for the purpose of spending the money in ways that will look well and make an impression upon the people who always love an object-lesson and are often susceptible and superficial about industrial training. Real tradesmen and workmen discriminate, and they are amused by what they see. There is not enough substantial result to it. I know very well that this is not always true, but quite as well that it is often true. Enthusiastic advocates of manual training in high schools have been

content to rest their interest in it upon its all-around cultural and educational value, meaning thereby its value to intellectual virility and energy, rather than upon the fact that it would make a more skilled craftsman and therefore an individual of more character and a citizen of more strength.

The letters of many principals of secondary schools indicate a strong belief in the value of manual training. Such writers hold strenuously that training in the use of certain tools is one of the fundamental procedures in education; that the square, the plane, and the needle lie at the bottom of civilization; and that the use of these tools affords the most direct and rapid means for teaching not only the co-operation of eye and hand, but also that rapid and ready execution of ideas which marks the truly efficient man or woman. Such writers have visions of a system of secondary education so correlated with elementary education upon the one hand and with the activities of life upon the other, that the pupils need not specialize in their work; but that the secondary should be a place where boys and girls can "find themselves" and choose their careers with intelligence. They would not have special schools but a system of general schools sending their pupils out into life—some into trades, some into business, and some on to college and the professional schools.

The breadth and scope of these visions of schoolmen have resulted in great changes in the secondary-school program. Many commercial and industrial subjects have been introduced. Educational procedure in our high schools is in a more unsettled state than that either of our elementary schools or of the colleges. The high school seems to be the battling-ground for educators at the present time, and the elasticity of modern secondary courses of study has made possible a great variety of educational practice relative to manual training in different sections of the country.

There seems to be a movement on foot in some quarters to abolish the old-time classical high school, as such, and to introduce general manual-training and commercial courses in all high schools. In some large cities these schools have been duplicated on the district plan without any attempt at differentiation. This viewpoint is expressed in a letter given to the New York Board of Education by the Brooklyn Educational League, viz.:

We can no longer speak of a uniform course of study for all high-school students. There are at least three distinct kinds of work that should be supplied by high schools in Brooklyn today, namely: (*a*) Commercial courses for both boys and girls; (*b*) industrial courses for boys and girls, including courses to fit girls for homemaking, nursing, and domestic occupations; (*c*) academic courses, including work preparatory for colleges or technical schools, as well as a course designed especially to meet the needs of those who will enter the training school and teach without taking a college course. The present method of building special schools in widely separated locations results in great educational loss, as many students choose a school because it happens to be nearer or because their friends go there, instead of choosing the school best fitted to their needs. In such cases there is a great waste of educational expenditure. The present method of offering only one kind of work in a school places an unnecessary barrier in the way of the student's changing his course when he discovers a change in his aptitudes or his opportunities. The grammar-school graduate is often too immature to make wise and permanent choice of the kind of work he

should follow for the next four years. Placing only one kind of work in a school ignores the fact that one of the most important functions of education, especially of high-school education, is to encourage the student to discover his proper vocation. To perform this function, the different kinds of work must be accessible and each must receive its due measure of respect. The school must have a broad and liberal spirit.

A similar point of view has been expressed by Eugene Davenport, dean of the College of Agriculture, University of Illinois, who writes:

We have learned that education must be adapted somewhat to the ends in view; that as civilization advances and knowledge accumulates, there must be many courses for many men, and we have learned too that there is by nature nothing incompatible between them, because higher industrial education flourishes nowhere else so well as when associated with the old-time courses, that unique and modern association of teaching and investigation that is designed to minister to all the needs—industrial, social, economic, and artistic—of a rapidly advancing civilization. There is no conflict between the classics and the industries, but all thinking men see clearly now that whether the education be classical or industrial, it is alike a part and an essential part of the successful development of a young, strong, virile race. The only question now is as to practical methods of procedure. There is little dispute any more as to the nature of courses best adapted to industrial ends, tho much improvement will be made as time passes. Academic standards and educational values are being set and the future of industrial education is assured, whether regarded from the standpoint of the individual or that of the industry. The only real question—and it is gigantic—is whether, and to what extent, industrial courses should be added to our existing schools or whether they should be relegated to separate institutions. Of one fact we may rest assured at the outset, and that is that industrial education is with us to stay. The industrial people insist upon it and public needs demand it. We can, therefore, find a place for it in our schools, making it an integral part of our system of universal education, or it will make a place for itself and a system of its own. I prefer that we retain the unity and integrity of our educational system by taking into our schools not only industrial education but all other forms of educational necessity that are now felt or that may in the future arise, to the end that all interests may be well served, and that too, in a way not involving influences that tend to break up the homogeneity of our people, but above all preventing the evolution of an American peasant class. Moreover, the strictly vocational courses succeed nowhere else so well as when intimately associated with the non-vocational. It adds directness and initiative to the cultural, thus turning back to the community a product whose individuals are highly schooled in specialized activities and therefor likely to succeed, yet who by association have learned to be broadly sympathetic with all activities and with all classes of effective people. In a word, I would see the policy of the state university transferred to the American high school, to the end that this most representative of all schools may do for the masses what the university is doing for the few.

Many schoolmen who are deeply concerned with the problem of secondary industrial and technical education do not take the point of view so ably presented by Professor Davenport. They feel that there is a conflict within the inner life of the present high school; that the aim and organization of this school were designed for literary purposes and that the aim and organization of the high school for technical, scientific, and commercial purposes are so different that it is almost impossible to unite these aims in one school. They feel that the modern high school is endeavoring to serve several interests, where the organization was created solely for one, viz., literary education for the professions. Figuratively speaking, the house was originally built to

accommodate one family, whereas it is now proposed that it be extended to hold several families, each one of which requires different accommodations. Since much of the work has to be done with the same facilities, which are not always suitable for the needs of all these families, there is unavoidable friction, loss of time, and weakening of forces.

The men of this group feel that there should be distinct differentiations in secondary education and that each school should have its own line of work appropriate to the special demands placed upon it. The field of secondary education, they urge, is becoming so large and its influence upon national life so important that the classical or literary high school or even the manual-training high school is no longer able to do justice to the full demands of secondary industrial and technical education.

A number of replies indicate a strong conviction that either the manual-training high school should be organized on its own foundation with the academic work related to the technical work and so arranged as to meet the vocational needs of the students taking such a course, or that communities should establish separate schools for technical education. In this connection James F. McElroy, of the Consolidated Car Heating Company, Albany, N.Y., writes:

> The manual-training high schools do not meet the requirements imposed by actual industrial conditions first, because boys must enter upon their life-work in the industries before a course in the high school can be completed; second, because financial conditions of those who must spend their lives in the industries of the country make it impracticable for the great majority of them to complete the manual-training high school course; third, because the work of the manual-training high school fits men better for foremen than for positions as mechanics.

Mr. McElroy goes on to state that instruction in these schools may be valuable but it is of a higher grade than that required for the great majority of our laboring class.

Similarly Mr. Kruezpointer states:

> The manual-training high schools train their pupils away from the shops and therefore do not reach the great mass of those who are to make their living as practical mechanics and helpers. In quite a number of high schools manual training has been introduced, but it confines itself chiefly to woodwork because of lack of funds for a more expensive equipment and lack of room. What is done goes but a little way because the work is along lines of mechanical dexterity chiefly and the drawing and academic part of the instruction is cramped for time, being obliged to go along with the classical course, the scientific course and perhaps some other course. Moreover, the boy who goes to high school rarely cares to go into the shop as an ordinary mechanic.

After careful investigation of the status of manual-training high schools and manual training in the high schools, a committee of the Cleveland Chamber of Commerce reported in 1906 the following:

> The amount of manual training taught in the regular high schools in the city is so small that it hardly seems wise to have it retained after the technical high school is organized. At present the students get about forty hours of mechanical drawing per year. We understand that the amount of time given to it is one hour and a half per week and during this time the student must get out his drawing materials at the beginning of the period

and put them away at the end. Very little can be learned in such a short time. The same thing can be said in regard to the work in the other departments. Students who really wish a manual-training course can go to the technical high school, and those who wish to follow courses of study without manual training can be accommodated in the ordinary high schools. We cannot see why machinery should be placed in so many high-school buildings and used only a part of each day. It should be possible for students in the regular high schools to take manual training during the evening sessions.

The feeling that the scope and purpose of the manual-training high school should be changed is not confined to men directly interested in the technical side of education, is evident from the following excerpt of a letter from Dr. Thomas M. Balliet, of New York University:

As for a manual-training high school, which differs only from the literary and commercial high schools in that it has somewhat more shopwork and perhaps more mechanical drawing and a literary course less extensive than the first, and perhaps a less specialized literary course than the second, I confess I see no use for it in the future. It has no distinctive aim and character. In such a school there is so great a lack of correlation between the academic studies and the shopwork that boys and girls recite together in their academic work and separately only in their strictly technical work. Such a school is simply a literary high school with a somewhat narrow academic course and with a little more shopwork. The problem before us is to transform all such manual-training high schools into technical high schools. The manual training of a technical high school is likely to be fully as good, and, I should say, better, than the manual training in a so-called manual-training high school of the type here described. Manual training does not lose its general educational value but distinctly gains by being given a more definite industrial bent than it has had in the past.

Professor Chamberlain, dean of the Throop Institute at Pasadena, Cal., writes:

A manual-training school should offer manual training as an intrinsic part of the course of study and not as an adjunct. Again, this manual training is in one sense the foundation element, and the manual-training high school must come more and more to industrialize its manual training. In other words, it must consider the trades element from the educational point of view. In my opinion, the committee can do a good work in showing that there is a place for a school that shall lie in its academic side between the grades on the one hand and the upper years of the high school on the other. It should teach the industries in the form of trades and from the technical point of view, always in the light of educational theory. These industrial forms of education should be taught not as adjuncts but as part and parcel of the academic side, so that mathematics, English, science, history, and other traditional lines of school work will be seen in their relations to the important aspects of industry.

III. It is commonly assumed that there is a correlation between the shopwork and the academic work in the manual-training high school. Such is not generally the case if judgment is to be based upon the answers received to the inquiries on this point. A careful study of the work of these schools shows that they give two kinds of courses—one academic and the other mechanical; and that there is little relation between the technical and academic work. The language work, whether it be Latin, German, French, or English, is the same for the "manual training" student as it is for the "classical" student. The mathematics is the same for all. The same is true of the history and the science work. In short, the prevailing custom in these schools is to conduct

the academic work and technical work as isolated and parallel courses. A number of principals have written that they regret that the academic training does not take its cue from the requirements of the shop. The principal of one of the largest high schools in the country acknowledges that the academic studies are in no way treated differently for students who take the manual-training course than for those who do not take it; that there is no relation between the manual-training work and its corresponding academic work, such as mathematics, science, language, etc. He states that the latter are isolated and arranged without reference to the manual-training work done by the pupils —that his school is one preparing for college; and that a student is expected to do his college-preparatory work in addition to his manual training. In a word, as he states it, "the manual work does not dominate or guide the general policies of the school in its general studies." Another principal takes a pessimistic point of view in that he says:

> I do not believe the subjects can be successfully correlated without considerable additional effort in that direction, not by teachers alone but primarily by the high-school officials and the makers of textbooks. There is too much chaff and not enough wheat in our secondary textbooks to enable them to offer the nourishment necessary in bringing about a healthy and active state of mind in the manual-training course.

Still another principal writes that

> the two departments (manual and academic) are run on parallel lines rather than by correlating the one with the other. Even where there is some talk of definite relationship one finds that this relationship is on paper rather than in fact. In practically no manual-training course that I am familiar with does any consistent relation exist between the treatment of these school subjects and the shop activity.

In sharp contrast to these statements a few replies are given expressing a different point of view.

In organizing the Technical High School in Cleveland, Dr. Charles S. Howe, president of a special committee of the Chamber of Commerce, recommended:

> That there be three recitation periods a day along three different lines of work: one line of mathematics, one line of science, one line of language. In mathematics, that practical arithmetic, algebra, plane and solid geometry, mensuration, and bookkeeping be taught. All of these subjects are to be taught with special reference to their practical application.

Professor Barney, of the Hebrew Technical Institute of New York City, writes:

> The compositions and essays in the English department have a direct bearing upon the work in hand and are therefore written with interest and earnestness. The extensive work in the drawing departments incidentally enables the pupil to illustrate most of the written work, and this in itself helps to increase the interest. In the department of physics and applied electricity, certain definite experiments and measurements have to be made from a collection of blue-printed descriptions and problems. These occasion extensive collateral reading and study and carefully kept notebooks are required.

IV. The subject of preparation for college in manual-training high schools was next considered: It was found that the majority of manual-training high

schools fit for the same colleges for which the general high schools prepare. The record of the graduates substantiates this point and shows that in this respect the manual-training high schools do not differ from other secondary schools. The consensus of opinion, however, indicates a strong conviction that it is unwise to fit students for all types of colleges in manual-training high schools and technical high schools. Those who take this point of view believe that fitting for all colleges almost inevitably means that such schools will be dominated by tradition rather than modified to meet the specialized needs of the present; that the high school shapes its work too much toward the college requirement; and that when opportunity comes to organize a new secondary school, it should be planned to provide courses that will meet the special needs of its pupils. As one principal puts it:

> To fashion our manual-training high schools so as to fit the pupils for all colleges, interferes with the primary and direct purpose of such high schools. When colleges are more ready to accredit value to the work of these schools it will be time enough for such schools to strain a point, if need be, by way of further encouraging and helping their students to enter such colleges.

Another principal writes that "these schools should make a special effort to fit their students for the greatest usefulness without regard to meeting the requirements of college-entrance examinations."

Dr. H. H. Belfield, of Chicago, writes:

> For many years I have maintained that when the high school has become only a fitting school for college, it is not doing its full duty. Many boys do not wish to go to college; many cannot go to college. Let there be a high school to fit boys for college and a high school directly for life. The two do not readily exist as one. The older form (the classical school) should stay; the secondary technical school meets the other demand; it will fit directly for business and for engineering schools. With some adjustment, it may also meet the needs of those boys who want the drawing and shopwork for entrance to scientific schools. But the primary idea of the secondary technical school should not be to fit for college.

The president of a technical college states that

> the secondary technical schools should not fit for any college except a technical college. The whole idea of these schools should be to fit boys for the manufacturing life, and if, for any reason, the students cannot enter the technical college they should be instructed to do some special work during the last year of their secondary course.

Dr. Balliet expresses a similar idea, and suggests a definite plan, viz.:

> While the literary high school should fit for the traditional college and perhaps the engineering school, the commercial high school could well fit for the commercial departments in colleges, and the technical high schools for engineering schools of college rank. It seems to me, however, that we should emphasize the fact that their function as fitting schools for higher institutions is secondary to their functions as above defined. I do not believe that it is well to have a secondary school from which a graduate cannot go to some higher school. All types of schools should be left open at the top to the most gifted pupils. It is more than probable that there will be two grades of technical high schools—those having four-year courses above the elementary schools, and others having six-year courses. The latter would then be practically fitting schools for the engineering colleges, and in that case the engineering schools would be rated in the same way as similar institutions in Europe,

where they are on a "university" instead of a "college" basis. Such developments cannot be forecast with any definiteness; they must come by a natural process of growth.

Associate Superintendent Stevens, of New York City, in response to the question, "Would you have the manual-training high school or the technical high school fit for college?" answered, "By no means. Division of labor must apply in education as elsewhere." It is clear that if a high school is to give its major attention to technical training it will be obviously unable to prepare for any but technical colleges.

V. Let us at this point consider the record of the graduates of these schools. We come now to a consideration of the effect of the manual-training high school upon the choice of vocation made by its graduates. The manual-training high school has never claimed to fit boys directly for industrial pursuits. In its early history this attitude was probably dictated by considerations of policy, but in these days of rapid movement toward secondary industrial education, it is significant that the manual-training high school does not even now fit directly for industries and that there is little apparent tendency to modify these institutions so that they may meet adequately the requirements of secondary technical education. The committee recognizes that the record of graduates of a school depends somewhat upon the school. In a school where shopwork is given but two periods a week, or where the teacher has only a smattering of training, the graduates can differ but little from the graduates of the ordinary high school. Furthermore, it is difficult to judge the work these schools have done by a mere study of the record of the graduates, for a very different showing would be made if a record could be given of those who attended for a time but were not graduated. For example, in the day classes of the Lewis Institute of Chicago, seven or eight times as many students have attended as have graduated and many of these young men have found desirable places in industrial life.

One of the principals of an eastern school writes:

> Few graduates are working as journeymen, but many are, nevertheless, in industrial life as superintendents of factories, foremen, draftsmen. There are a good many journeymen in the trades who have had a year or two in a manual-training school.

Principal Warner, of the Springfield, Mass., school, writes in a similar vein, and Principal Morrison, principal of the Northeast Manual-Training High School of Philadelphia, states that

> the graduates of this school are business men, professional men, professors, clergymen, and the great part of the remainder follow the enlarged opportunities offered in the advancement of the scientific trend of the age.

Principal von Nardroff, of the Stuyvesant High School of New York City, writes:

> Of the present senior class, numbering thirty, twenty-four are planning to continue their education in colleges, higher technical schools, and professional schools, and six are immediately to seek employment in which they will make use of the technical training of

their high-school course. Those who are going on to higher technical and professional schools are doubtless making the best possible use of the education that they have already acquired.

The principal of the Denver Manual Training High School sends the following record:

Of the class of 1908, 51 per cent. entered upon advanced school work in technical school or university; 72 per cent. of the class of 1907 entered upon advanced school work in technical school or university.

The Chicago Manual Training High School, one of the oldest in the country, makes the following statement:

The character of the work of the school may be inferred from the following statement of the occupations of some of its 661 graduates. In manufacturing or mercantile business: 67 mechanical, electrical, or civil engineers; 61 superintendents or managers of manufacturing or other business establishments; 102 designers, draftsmen, foremen, chemists, machinists, electricians; 152 bookkeepers, clerks, etc.; 137 lawyers, physicians, teachers; 134 graduates are in colleges or other institutions of learning; 145 college degrees have been received by its graduates.

Principal Larkins, of the Brooklyn Manual-Training High School, sends the following to the committee:

I know that a great many of our graduates, particularly women, have entered teaching, and that large numbers have gone to college from this school. Some are in clerical positions, some are merchants, and a few salesmen; a great many are professional men and engineers; two or three are draftsmen. So far as the trades are concerned, two graduates became machinists, one of whom has since died and one has left the business to go on the operatic stage. One, after a technical course in Columbia University, has become a plumber; that is to say, he has entered the service of his father who is one of the largest plumber contractors in the city. One or two have become artists, four or five have become electrical mechanics, and a number have become surveyors.

To Principal Bogan, of the Albert G. Lane School of Chicago, the committee is indebted for the following:

From the 40 students who expect to graduate in June, 10 will enter engineering schools; 2 will enter law schools; 6 will become teachers of manual training; 6 will enter agricultural colleges; 4 will enter drafting-rooms; 7 will enter trades, and 5 are undecided.

Dean Chamberlain, of the Throop Institute of Pasadena, Cal., states:

I append my list showing the occupation of graduates. The fact that 13 per cent., as per appended list, are engineers and 12 per cent. are managers, etc., shows that a large number go to technical colleges. Of the 28 per cent. that are teachers and students, a large majority are now in technical colleges. You can see at once that our list tallies with the report of the Massachusetts Industrial Commission, as few go into the trades.

It must be remembered, however, that the value of handworking courses in these schools as Superintendent Stevens, of New York, so well states, "must be judged not only by the record of its graduates but by the proficiency it may give the boy or girl who does not graduate."

The aims of the manual-training high schools as expressed by those who

preside over them, the lack of definite correlation between academic and manual work, and the record of their graduates, together make it clear that these schools are academic rather than vocational in character, that there is little apparent tendency to bring these schools into more direct relationship with industrial activity, and that there is little or no desire to specially train graduates for the manufacturing life of the community. Practically no principal of a manual-training school has suggested that manual training be made more technical or that it be reorganized so as to serve as a preparation for specific industrial vocations.

VI. This subcommittee was directed to examine the possibilities of technical education in the secondary-school field, and to define the functions of technical high schools. This type of school is just now in process of development and it is difficult to forecast just what its ultimate character is to be. We have the engineering schools of collegiate rank, but we have had until very recently no public schools which provide thoro technical training of secondary grade. There is a great variety of positions coming between the engineer on the one hand and the mechanic on the other. The special function of the technical high school should be to train men for these positions. The engineering schools have their own functions and do not give the practical training involving the essentials of a variety of trades and industrial processes which foremen, superintendents of shops, and men of that type need. The technical high school can give this practical training, and in addition, all the scientific and literary training which is necessary for such positions. No doubt a large number of foremen and superintendents, designers and manufacturing experts will, in the future, come from the ranks of mechanics as heretofore, but the majority of such positions are more and more requiring a broader equipment than is afforded in commercial practice. Furthermore, just as the commercial high school should not only train stenographers and bookkeepers and specialists, but also furnish broad training to gifted young men who will occupy responsible executive positions in the commercial world, so the technical high school should aim to give courses broad enough to train men who are to be manufacturers and directors of industry. Such men need a more practical knowledge of mechanical and technical processes than the engineering college now furnishes.

Superintendent L. D. Harvey suggests that technical high schools may be of different types. The committee quotes from his letter the following:

> They may be schools designed primarily to prepare students for engineering courses in higher educational institutions; or schools designed to give such technical training as will enable the students taking the course to master the technique of various occupations, not perhaps to the fullest and most complete limit, but to the limit that is necessary to give them the technical information requisite for foremen and superintendents in many of the lines of industrial work. It is possible that these two functions may be combined in the same school. It is clearly evident that a school, whose courses have in view the needs above stated, must have a different content for these courses and must organize them differently than the courses in existence in the technical high schools that aim primarily to prepare students to enter any kind of a higher educational institution.

Principal Weaver, of the Girls' Practical Arts High School of Boston, has the following conception of such a school:

It is one that should aim to give training that will enable the pupil to enter upon some line of industrial work and successfully perform it. Instead of spending time on the various handicrafts, I believe that the pupils should be directed along one particular line. Technical high schools, in preparing pupils to enter the industries, should give thoro instruction in drawing, which is the basis of all handicraft. Our object is to train girls to be competent housekeepers whether they intend to become wage-earners or not. The latter are prepared during the four years to become milliners or dressmakers.

Superintendent Elson, who has had much to do with the establishment of a technical high school in Cleveland, makes the following analysis of such a school:

A technical high school I regard as a scientific school, a school that is headed toward intelligent service in the industries. It has high standards of technical work, it looks to an effective output, and it groups its academic subjects with reference to the needs of the technical problems. The student devotes about half his time to technical and the other half to academic studies. The academic studies include language, mathematics, and science, together with some history and civics, hygiene and sanitation. The usual treatment of the various phases of the academic studies—for example, mathematics—is not followed. That is to say, there is no attempt to teach algebra as a science, or geometry as a science, but rather such parts of arithmetic, algebra, geometry, and trigonometry are selected as are fundamental in carrying forward the requirements of the technical studies. The training in these is such as to give ready skill in the control of the necessary mathematical ideas to forward the technical problems in hand. The result of such instruction should be pupils with a ready, usable knowledge of the fundamental problems and processes in arithmetic, algebra, geometry, and trigonometry. Similarly, science should deal with those topics chosen especially with reference to their utility. The science should be applied science rather than general science. Again, English, German, or French offers opportunity for giving the industrial bias to the work. The theme-writing can well include as topics the products and processes involved in manufacture. Such a school therefore groups its studies, selects its topics, and arranges its instruction with reference to its fundamental needs on the technical side. Such a school is not headed for college. It seeks to make efficient workers and intelligent workmen. The student need not have less culture and he certainly will have a larger fund of usable knowledge than would be possible were the academic studies carried in isolated, parallel lines and developed as entities, or as sciences. . . . . The technical school probably offers some opportunity for specialization during the last year of its course. The manual-training high schools certainly do not meet the needs of the situation. Indeed, from an industrial standpoint they have done very little to help conditions. There are no technical high schools in the country, or at most only one or two; and what they will do in the way of supplying industrial needs can only be determined by way of a guess. My impression is that this is the type of secondary school which has a distinct and important place and which will be of great service to the cause of industry. Indeed, from an educational standpoint, I think the technical high school is of commanding importance. However, to my mind, we need, first, to get our general schools of a practical nature on a more effective basis. I believe that it is wise to move rather toward the making of technical high schools, than toward so-called manual-training schools. The need for a purely literary high school is very limited in comparison with that of the school of the type of technical high school, defined above.

George H. Martin, secretary of the Massachusetts State Board of Education outlined the place and function of a technical high school in a paper

read at the meeting of the Department of Superintendence at Washington in 1908:

(1) Such a school will have an avowedly vocational purpose. This will exclude the so-called general courses for culture which aim only to offer new intellectual feeding-grounds for boys who do not care to browse in the old academic pastures. (2) The vocations for which such a school would prepare are not in the professions. Hence, courses especially designed to prepare for the colleges and for the normal schools would be excluded, though these are really vocational courses. (3) Technical high schools may be commercial, agricultural, or mechanical. Mechanical high schools may be as varied as the manufacturing industries for which they are to prepare. A school may prepare for a single industry or it may be polytechnic in its character, offering a variety of courses adapted to local needs. (4) In the age of its pupils, in the length of its courses, and in its preparatory requirements, a technical high school should correspond with high schools of other sorts. This would call for four-year courses following the completion of an eight- or nine-year elementary course, and would include pupils, roughly speaking, from fourteen to eighteen years of age. (5) Being a technical school its distinctive function would be to develop economic efficiency, but in common with all public schools it must aim also to develop intellectual and moral character. Each of these aims is both individual and social. (6) The work of the school will be threefold: (*a*) to furnish technical knowledge and technical skill; (*b*) to promote intelligence, breadth, and refinement of a cultural sort; (*c*) to develop a sense of civic obligation. (7) For the first purpose there should be drawing, mathematics, and science, in kind and amount according to the needs of the industry for whose technique the student is preparing. (8) Technical skill in mechanic arts can be acquired only in a shop, so that shop practice must constitute a large part of the work of the technical school. It may be gained either in a school shop or in a commercial shop. Which is better, the experience of the world has not yet determined. Both are in operation and each has its advantages. Undoubtedly a good school shop is better than a poor commercial shop; but a school shop, to be good, must contain the essential features of the best commercial shop. Its instructors must be shop-trained men; its hours and discipline must be those of the shop; and its product must be a salable commercial product. Whether the product should be sold or not is another question. What is true of the shopwork is equally true of the farm work. (9) In order that the student may become a useful citizen as well as a skilled workman, the school course should include history, economics, and civics. Time also should be provided for thoro physical training, including personal hygiene and organized athletics. English should be cultivated thruout the course by composition and forensics. Opportunity should be offered to those students who might find relaxation and æsthetic pleasure in the study and practice of vocal and instrumental music.

The committee does not wish to overlook those cities and towns which cannot have a completely differentiated high-school system, and wishes to make clear that industrial and educational conditions in different communities are so varied that no one type of school can meet the needs of all communities. It may be entirely possible in some communities to modify slowly manual-training courses in high schools, transferring the prevailing cultural purpose into the industrial, without any real loss of culture. In many communities the technical high school is not at all feasible, altho there are many boys who ought to have the opportunity of developing efficiency in industrial pursuits. The committee suggests that in many of the smaller cities the manual-training courses in the elementary school and in the high school may be modified so as to meet this need in a fairly satisfactory way. In such cases every effort

should be made to make the handwork an integral part of the course of study of the industrial pupils.

Assuming that manual-training high schools do not make provision for industrial education of secondary grade, and that technical high schools exist in exceedingly small numbers in this country, it remains to be shown that there is a real need for such schools. First, it may be noted that in the judgment of nearly every respondent, there is a distinct place for industrial education of a secondary character. The manual-training high school was introduced into our public-school system very largely because of a belief on the part of the public that in them students would be fitted for actual industrial pursuits. Now that these schools have found another place in the scheme of secondary education, the field is left open for another type of secondary school that will meet the expectations that were directed upon the older manual-training high school. The committee does not urge that the literary, commercial, and manual-training high schools are not worth all they have cost; on the contrary, it feels that they contribute an invaluable element of modern education. It is only intended to urge that they meet the needs of industrial education only partially, and that their ideals and methods are such that it is impossible for them to meet this situation adequately.

Handwork in secondary education has another mission besides that of general culture. While everyone should know how to use his hands, a preponderating number of each generation of school children must know how to use them for some definite purpose. To them the question is not one of academic culture, but of livelihood. In every great manufacturing city this number is very large. The welfare of a city, its rank among the municipalities of the land, must depend in a large degree on the efficiency of its skilled workers and industrial leaders. That large body of pupils who annually make their exodus from the elementary and high schools, beginning at the sixth school year, to a very large extent, enter low-grade and poorly paid commercial and industrial pursuits. After they work a year or two they often realize their lack of training. Some enter night schools, but most of them are beyond the reach of further educational influences. If some means could be devised whereby these boys and girls would be more definitely strengthened for their vocations, while at the same time they were given a further general education, a long stride would be taken toward making of them more self-reliant men and women and better citizens.

In New York City approximately 37 per cent. of the population are engaged in industrial and mechanical work; 37 per cent. in business, 19 per cent. in domestic service, and 5 per cent. in the learned professions, and undoubtedly other large cities of our country would show a similar distribution. There are many schools for the 5 per cent. in the learned professions, and there should not be fewer; but aside from the engineering schools of college grade, there are but few containing thoro practical courses for the 37 per cent. engaged in industrial and mechanical work. The schools, both elementary and high, are too

exclusively literary in their character for large numbers of average active boys from thirteen to seventeen years. This is a period when such boys need to realize a practical quality in their education. If such boys could enter a school with a definite vocational end in view, where they could feel the interrelation between their mathematics, science, drawing, and shopwork; and where they would realize that they were preparing themselves for definite work in the skilled industries, where their wages would be commensurate with their worth, it is not too much to prophesy that many such boys would continue at school both from their own choice and with the encouragement of their parents.

Investigation seems to prove that there is a demand for this type of school for the education of boys and girls of secondary age who do not care to take up the work of existing high schools and who desire to prepare primarily for some particular activity.

The facts developed by this report also seem to indicate clearly that such a school must be in many ways a somewhat radical departure from present types of secondary school.

In 1906 the Board of Education in Cleveland appointed an educational commission which was asked to make a study of the educational system of the city and suggest such changes as would be beneficial. It took up the question of technical high schools and commercial high schools. In studying the problem the commission reported substantially as follows: Cleveland has six high schools of the old type which fit boys for college or which give them the broad training of the high school as preparation for their life-work, whatever that may be. The majority of students who attend high school at all will continue to go to one of these schools. These schools do not give any special preparation for either the manufacturing or the commercial life of the city, and, in our opinion, there should be one school at least in each of these lines. The commission therefore recommended that a manual-training high school be established having a four-year course with morning and afternoon sessions, which should give at least one-half of each day to study and recitation work and one-half of each day to practical work in the shop, the drawing-room, or the laboratory. The commission stated its belief that the graduates of this school would be in great demand by manufacturers, and that while in some cases they would go into the shops as mechanics, they would undoubtedly, in a short time, if showing the ability, become foremen, and later on, assistant superintendents. The fact that they would be well-educated young men with special knowledge of drawing and the use of tools, would quickly fit them for positions of responsibility. Some of them might go into the shop; some might go into the office; some might become salesmen; but in any, or all of these positions, the practical knowledge they gained would be of utmost benefit.

The report of this commission resulted in the establishment of a technical high school, and Principal James F. Barker, in a speech before the Eastern Association of Manual Training Teachers at Pittsburg, May, 1909, described the educational practice underlying this school. Parts of his address follow:

Large cities are coming to see that they must provide specialized schools to meet the needs and popular demands of their people; that present-day schools do not meet these needs in many cases is all too apparent. The number of children in the various grades in the Cleveland schools are as follows: 1st, 14,509; 2d, 9,992; 3d, 9,530; 4th, 8,780; 5th, 7,702; 6th, 6,179; 7th, 4,974; 8th, 3,154; High 1st, 1,903; High 2d, 1,426; High 3d, 930; High 4th, 740. Compare the first figures, 14,000, with the last figure, 700. The high-school graduating class is only 5 per cent. of the first-grade registration. Figures of this sort have been hurled at our heads till we are weary and yet we do not grasp the significance of a tremendous loss like this. . . . . What is the matter with the schools? Nothing so far as they go. They stop short of their full mission. The difficulty is elsewhere. It is mainly in our industrialism. We must readjust ourselves to these conditions and readjust our system of education. . . . . But education seems to have reversed the usual order of evolution, and instead of growing from the bottom up, it has always been from the top downward. From the university of mediaeval times to the preparatory schools of the past two centuries, thence to the grammar school, and last of all we have cared for the little children in the kindergarten. And following this general trend of education, we establish vocational high schools before vocational grammar-grade schools. So the Cleveland Technical High School, which is a vocational school, precedes the vocational school for the seventh and eighth grades, but the duty of the vocational high school will never be the same as the duty of the vocational school of the grammar grades. A vocational high school must train for industrial leadership, just as an academic high school trains for professional leadership. In planning the course for the Cleveland Technical High School, then, the first step was to free ourselves from the dominating idea of the college-entrance requirement, and this we have done. Our course is a four-year course, predominantly strong in science thruout, with a two-year preparatory manual-training course supplemented by two more years of trade instruction. The two years devoted to manual training have "general industrial intelligence" as the watchword, with an effort to secure as much information related to the industries as can be gathered. At the completion of these two years a trade may be selected by the student, with the assistance of the home and upon the advice of the school. From that time on, twenty hours a week (four hours daily) for two years gives us the desired opportunity to teach trades. But this is only half of the school day. Pupils are still required to study English, mathematics, and science as during the two preceding years, and thruout we are using the industries as the center about which to group the academic subjects. Our first-year mathematics is shop mathematics, with a strong accent upon the simple handling of numbers (simple arithmetic in a high school, note you). Next year we are going to take a group of boys thru a combination course teaching mathematics—arithmetic, algebra, geometry, and trigonometry—as one subject. The first year geography is related to the industries and leads up thru weather and climatic conditions to production of raw material into manufacture and thence transportation. Our English is taking on more and more industrialism. We visit shops, write stories of manufacture, and read stories of invention and industrial discovery. Thru the four years of the school we are relating the English, the mathematics, and the science to the shop problem. We are writing our own text as we proceed. . . . . The industrial branches offered to the boys, of course, differ from those available for girls. Evidently, then, from the relationship between the technical and the academic work, the girls would not receive the same instruction in algebra and other subjects as that given to the boys, and so in all subjects the boys and the girls are segregated. The only place where they recite together is at the noon period during luncheon. In the trades we are offering cabinet-making, pattern-making and foundry practice, machine shop, architectural, and mechanical drafting, printing and bookbinding, pottery and applied design, millinery, catering and cooking. Another experiment which we are watching with considerable interest is that of the Summer Quarter. That is, the school is planned to operate forty-eight weeks a year—twelve weeks constituting a quarter, with a single week's vacation between. To graduate, twelve quar-

ters are required. These may be taken three per year for four years, or four per year for three years, or *ad libitum*. The next class enters July 6. This we believe will mean a great deal to many boys, this shortening of the full high-school course from four to three years. It means more, it means that teachers are paid for twelve instead of for ten months. Strong vigorous teachers can stand the strain just as any business man or woman engaged in other pursuits does. A teacher who would receive $1,500 thus earns $2,000, and has four weeks of vacation per year. One reason why teachers are so underpaid is the fact that during less than 200 out of the 365 days, less than six hours daily are given to active teaching. To date, about one-half of the boys are planning to attend the Summer Quarter. The proportion of girls is somewhat less. In all, our Summer Quarter will enroll 450 pupils. During the last week of the 1909 summer session the attendance was 98.8 per cent. and at no time did it go below 96 per cent. (Principal Barker reports that during the session the school lost an enrollment of twelve pupils out of a total enrollment of 430.) Last year about 5,000 pupils attended the six Cleveland High schools. This fall the Technical opened with an attendance of nearly 700. The total falling off in the other high schools was 42—that is, the establishment and opening of this school supplied the needs of 658 pupils who otherwise would have left school at the eighth grade. If no other good has come of the project, this alone would have been full compensation for opening such an institution. . . . . During the past winter an evening school teaching trades has been open to men and women engaged at the same trade during the day. That is, classes in machine-shop practice, for instance, were opened for men employed as machinists during their working-hours, and so on thru other lines of work. The applicants numbered three times the capacity of the school. One particularly interesting class was formed. An organization of men employing sheet-metal workers is sending its apprentices to evening school. These apprentices are regularly indentured. Part of the contract calls for two years' instruction in the evening technical high school, the employers paying $7.50 per term for four terms for the instruction. Here is a trade that has perhaps felt as strongly as any the need of more intelligent workers. The evening class attendance was over 85 per cent. of perfect in all classes and in some it was 95 per cent. for the winter.

A strong feature of this type of school is the direct bearing which the academic instruction has upon the industries. This is an essential feature of secondary industrial education. Superintendent Harvey writes that the Stout Institute is slowly modifying some of its academic subjects from the traditional ideas as manifested in textbooks in use in high schools with the effort to make the instruction bear a more definite relation to the activities of life than it does in the traditional high school.

Principal Bogan, of the Albert G. Lane Technical High School of Chicago, states that his school is aiming to make all subjects as practical as possible—for instance, much of the mathematics consists of shop problems. In physics special emphasis is placed on electricity. In fact, he proposes to offer a three-year course in electrical physics preparatory to the one-year course in electrical construction. In English a large part of the composition work is devoted to shop activities, and much of the outside reading is devoted to the study of the lives of great inventors, discoverers, and explorers. In physiography unusual attention is given to a study of the metallic ores; and in botany a large share of the time is devoted to a course in elementary forestry closely related to work in the wood shop. Mechanical drawing, freehand drawing and machine sketching, architectural drawing and machine design are closely

related to the work of the science laboratories and shops. In history emphasis is placed on the development of industry.

Dr. Balliet thinks that the shopwork and all the academic work must be most closely correlated. He further states:

> The technical ideal must make itself felt, not only in the shopwork but in all the academic work, and especially in mathematics and the sciences. In such a school, science must be taught as applied science, and mathematics as applied mathematics. Even in such subjects as English and history, the technical ideal must considerably modify the treatment as compared with the treatment of these subjects in a literary high school. In this respect the technical high school must differ radically from a literary high school or a commercial high school with a shop attached to it. Necessarily it follows also that, if science and mathematics are to be taught in their application to mechanical and technical processes, coeducation in a technical high school is impossible in the sense that boys and girls are to study and recite together in the same class; for it is not possible that the two sexes should be interested in the same line of applications. Coeducation, in the sense that one-half of the school may be attended by boys and the other half by girls, the two halves being practically as distinct and separate as two independent schools, will of course be possible, but hardly desirable.

The Technical High School in Cleveland seems to the committee to approach most closely to the definition previously given for such a school. There are several other "technical high schools" in the country, but an examination of their courses of study will show that they do not radically differ from ordinary manual-training high schools.

The investigation also shows that some schools not called "technical high schools" are fulfilling the function of such a school as defined by this committee. The California School of Mechanical Arts at San Francisco is one of these. This school has proved to its own satisfaction that there is a demand for technical training of high-school grade. Its polytechnic course differs from the course usually given in manual-training high schools by leaning more decidedly to the practical or industrial side: (1) in the amount and character of the shop and technical instruction; (2) in the length of the daily program; (3) in the type of its shop teachers; (4) in emphasizing applied mathematics and science in preference to literary subjects; (5) in its distinctive viewpoint and atmosphere generally.

VII. The special field assigned to this committee was that of secondary industrial and technical education. The Committee has thus far attempted to show the purpose, methods, and results of manual-training high schools. It has attempted a definition of the technical high school and has given considerable attention to the educational practice appropriate to such a school. It has emphasized the necessity of a direct relationship between academic studies and shopwork. It has pointed out that the course in such a school should not be influenced by college requirements beyond those of a technical college. It has attempted to make clear that the academic standards of such a school must be different from those of a literary high school, and finally, that the consensus of opinion as based upon the replies seems to be that such a school can do its best work when it is a separate educational unit. While this committee was

not directly concerned with the question of "trades schools," it was thought best to send out a letter of inquiry to ascertain whether there was a demand for trade instruction and whether the technical high school, in some measure, could meet this demand or whether there should be a separate school unit for such instruction. Without any exception the replies point out that neither the manual-training high school nor the technical high school can fully meet the needs of all secondary industrial education. In all the suggestions offered to the committee concerning a plan for secondary industrial education, much was made of industrial education of a grade somewhat lower than that of the technical high school. In the words of Dr. Balliet:

> We need a fourth type of school which might be called, perhaps, a secondary school, tho I should prefer, I think, the name "intermediate industrial school." Such a school should cover, in point of time, the last two years at least of the elementary-school course and the first two years of the high-school course. In such a school there can be organized a great variety of courses fitting for corresponding trades. The local needs of the community should largely determine the trades to be taught, and yet not entirely, as in these days the migration of labor from place to place is so easy that we are not justified in urging a pupil to take up a trade for which he has little taste solely because there is a strong demand for it in the locality.

The report of the Subcommittee on the Intermediate Industrial School covers fully this field as outlined by Dr. Balliet, and the attention that this committee proposes to give to this field is merely for the purpose of considering whether some of the work of the intermediate school can be done, temporarily at least, in the building devoted to secondary industrial education. The present discussion should be read in closest connection with that of the Subcommittee on the Intermediate Industrial School. If the intermediate industrial school has a four-year course it will lie either entirely or partly within the secondary field of education, according to the point at which secondary education is assumed to begin. George A. Merrill, principal of the School of Mechanical Arts at San Francisco, suggests the following plan of organization:

> The elementary school should end with the sixth grade. The present high school should be cut exactly in two. Grades 7, 8, 9, and 10 should constitute an intermediate or secondary school by itself. Grades 11, 12, 13, and 14 should be grouped together as a higher school or college. If the tendency thruout the nation is the same as it is in California, it is in the direction of some sort of an arrangement such as I have outlined. For a number of years we have been discussing the advisability of a "six and six" arrangement, taking the seventh and eighth grades from the elementary school and adding them to the high school. Now come the universities asking to have the college freshman and sophomore years (Grades 13 and 14) transferred to the province of the high schools. The desirability of having the elementary school terminate with the sixth grade is pretty generally recognized, but the importance of subdividing Grades 7 to 14 into two stages of four years each is what I want to emphasize, tho speaking only from the industrial point of view for the time being. As it stands today, boys finishing the grammar school at the age of fifteen (which is approximately the average) are too young, by two years, to begin apprenticeships. That means that the natural age for beginning apprenticeships comes right in the middle of the present high-school period. The intermediate school that I propose (to include

Grades 7 to 10) would graduate boys at the age when so many of them drop out of the second year of the present high schools, and hence such a school would be the logical place in which to develop "industrial intelligence" preliminary to an apprenticeship. The high school or college that I propose (Grades 11 to 14) is where differentiation should begin. Some would be trade schools, some classical schools, some pre-medical, some technical high schools, some commercial. The basis of this proposed regrouping of the grades is not a matter of speculation; it has been forced upon me through my experience in the Lick and Wilmerding schools. The Wilmerding school is intended solely to teach boys trades, and we have tried hard to keep within that province. Most of our boys we have taken just as they graduate from the grammar school. We have tried to determine whether it is feasible to take such boys and teach them trades as an integral part of their general education and preparation for life, and our experience tells us that it would be better if we could take them two years later in life. The future American trade school must find some way to get its boys at the same age at which boys ordinarily begin apprenticeships outside of school—not because of custom alone, but because that is the time when boys seem mentally and physically ready to begin their trades. Certainly they are not ready or fit for trades at the usual age of graduation from the grammar school. The practical difficulty at present, of course, is in winning back into the schoolroom the army of seventeen-year-old boys who have been out of school three, four, or five years, having dropped out of school when the "industrial instinct" began to manifest itself within them; in other words, at the end of the sixth grade. The industrial branches most suitable to be incorporated in such an intermediate school will have to be determined by trial. The woodwork and forgework of the present manual-training high school might well be retained, since wood and mild steel still constitute the leading materials of construction. That is the test that I would apply, as a rule, in the choice of shop subjects; I would select occupations that have to do with the materials most commonly used in the industries. Applying that test, I would say that electrical work and sheet-metal work are deserving of a more prominent place in school shops, since the modern tendency in the use of metals is in the forms of wire and rolled sheets. In the intermediate school I would substitute electrical work (including light machine work) for the machine-shop course of the present manual-training high school. We have tried it at the Wilmerding School and we find that it works well. I am amazed also to observe how bricklaying has become quite popular as an elective manual-training subject among our students in the Lick as well as in the Wilmerding school.

My next observation has to do with the matter of academic studies in connection with trade teaching. Year by year I have been forced back toward the conclusion that the founder of the Wilmerding School was on the right track when he expressed the idea of "teaching boys trades, with plenty of work and little study." Unfortunately, the average boy who insists on leaving school at the age of twelve or thirteen needs Mr. Wilmerding's prescription, and so does the average apprentice of seventeen or eighteen. The apprentice and the young journeyman who attend night school or who take correspondence courses, etc., do so, not to perfect themselves in their trades, but with a view to getting out of their trades. I am here merely telling what my experience dictates as the proper amount of academic work to count on for the future trade school—not the intermediate school, but the higher trade school. In the intermediate school the boy who wants plenty of work and little study should be accommodated, if he insists on it, but he is the boy who will be expected to graduate from the intermediate school into the trade school, while his more studious neighbor will be a candidate for one of the other high schools.

There appears to be a unanimity of opinion that the trade school should be separate from the technical high school. The majority of respondents have suggested that the term "trade high school" is a misnomer. Professor Charles R. Richards, of Cooper Union, voices the opinion of many when he states:

I do not believe that there is any vital possibility of such a thing as a trade school of high-school grade—that is, in the sense of beginning with pupils who have graduated from the grammar school and continuing with a four-year course. The trade school is not a high-school problem in the above sense, and I do not believe there is any possibility of converting our manual-training high schools into trade schools.

The trade school looks to early entrance upon an industrial pursuit with an equipment of specialized skill and technical knowledge on the part of its graduates that shall make it possible for them to materially reduce the time ordinarily required to learn a skilled trade. It has a minimum requirement on the literary and scientific side and a maximum requirement on the side of skill. While it may look to individual, social, and mental development as well as more skill in execution, it places its greatest emphasis on the making of good workmen. It gives a minimum of academic training and a maximum of ready skill in processes of work in specific trades. Trade schools are not expected to develop leaders and furnish foremen and managers of industrial processes so much as to train the rank and file of the great army of industrial workers where such training cannot be satisfactorily had under commercial conditions.

Dr. Parmenter, of Boston, writes:

I am inclined to leave out the term "high" in this connection, for an efficient trade school will concern itself mainly, in the case of an individual pupil, with the particular line of industry for which he desires to fit himself. The instruction must necessarily be adapted largely to giving knowledge of the principles involved in a particular trade and skill in applying the principles and processes. Little, if any instruction will be given that can properly be called high-school work in the ordinary sense of that term. The above answer implies that I think the trade school should differ very radically from the manual-training high school. If it does not it will be an unnecessary and indefensible duplication of educational machinery.

President Charles H. Howe, of the Case School of Applied Science, makes it clear that trades schools are units separate and distinct from other secondary schools. He says:

I believe in trade schools most thoroly and think they are coming as part of the educational system of every city, but when they come, they are to be trade schools, pure and simple, the object being not to give an education to the mind but to teach a trade. I think it will be possible in these schools to fit boys to become journeymen so that they can do a man's work when they graduate. A trades school will be in a building which is exactly like a shop. It will have the same kind of machinery and as many different kinds as the best-equipped shops. The teaching will be done by foremen who are taken out of the shops and who do all the teaching that apprentices in the shops receive. This school will manufacture goods as a shop does and its product will be sold in the market as is the product of the shop. Some manufacturers would claim that this was not a school but a shop. I am perfectly willing that it should be called a shop, but I would still claim that it is a school because its principal object is to teach, while the principal object of the shop is to turn out the manufactured product. A trade school cannot take students under sixteen or seventeen years of age, because if it does, its graduates will be so young that they cannot secure positions as journeymen. In most states the limit of school age is fourteen years. I should think that there ought to be intermediate industrial schools established for boys from fourteen to sixteen like the continuation schools of Germany. In these schools the boys would be given a little instruction in practical arithmetic and they should be given a

great deal of drawing and handwork. I should say that every boy in these schools should have a thoro course in all the branches of handwork without regard to the particular trade he intended to enter and then, at the age of sixteen or whatever age was fixed upon as the proper time for him to enter the trade school, he would begin the study of his particular trade. The training given him in the manual-training school would of course be of great benefit after he began his special work. The broader knowledge of all the trades, or a number of them, which he would get in the manual-training work, would fit him for a better comprehension of the particular work that he was to do, and, I think, in many cases, would aid him in later years to become a foreman or a master himself. I should say that the handwork which I have mentioned and the trade-school work should be entirely distinct from the high school. The objects of the two institutions are entirely different. The industrial school which I have compared to the continuation school would of course be a part of the trade school, because the boy would go from it into the trade school as soon as his age permitted.

The responses seem to have established the fact that vocational instruction leading to trades should begin below the high-school age. We must expect the larger number of pupils to enter trades school from grades below the present high-school period, and we must devise means for attracting and holding them in school. The investigations of James F. McElroy, consulting engineer of the Consolidated Car Heating Co. at Albany, N.Y., not only clearly point out the educational qualifications of men who are in trades, but also emphasize that a trades school cannot have the academic requirements of our present high school. He says:

I have had inquiry made of over 100 workmen composed largely of machinists, and hence representing a grade of intelligence higher than the average. The inquiry has developed two facts in which we are concerned at this time: First, out of 102 men there was not to be found a single graduate of a high school nor a person who ever attended as a pupil in a high-school course. Second, out of 102 men I found only seven who had completed the course in the grammar schools. From this it appears that the education of all of these mechanics was limited to such education as is furnished by the grammar schools and that 93 per cent. of them belong to that class of pupils that drop out of school before completing the grammar-school course. On the inquiry of other people interested in manufacturing I am informed that approximately the same condition exists among people engaged in trades in their employ.

In this connection Arthur L. Williston, director of Pratt Institute, Brooklyn, states:

In my judgment, it is unwise—I would almost say, impossible—to make any compromise between a school where economic considerations govern and are supreme and a school where accepted educational notions govern. For this reason, I believe any compromise between manual training and trade instruction is impracticable.

Dr. Balliet expresses the same thought when he says:

It seems to me it will never be possible to teach trades in a technical high school. The standard of admission would be too high for pupils who are to learn a trade, if it were made uniform with the general standard of admission of the present high school; it would shut out fully 80 per cent. of those who ought to learn a trade. On the other hand, there are very great difficulties in having two standards of admission to the same school, as every practical schoolman will appreciate. To teach trades in a technical high school, therefore,

would mean practically that the school should consist of two institutions namely, a technical high school and a trade school, in one building. It is better to organize trade schools as separate schools than to try to unite them with technical high schools.

The Springfield Technical High School had a course in special shop practice. Experience in this city goes to prove that such a course is not successful when connected with a technical high school. Principal Warner writes as follows:

While our experience proves the attractiveness of practical high-school work of a more general and scientific character than trades teaching, it by no means proves that trades-school work itself in our high schools would prove equally attractive. The experience on this point that I refer to is the history of our so-called C course in the Technical High School. We intended to make this approach very closely to a trades course. It was very far from successful. Boys who entered it in the freshman year left it for the more strictly academic courses along the way, or left school, so that by the senior year we had very few, and sometimes none at all, to graduate from that course. This seems to me to prove conclusively that in Springfield and other cities like Springfield, the pupils who get into our schools under the present standard of admission, even those pupils who have a very decided practical bent, do not belong to the class for whom the trades high school is to be organized.

VIII. Evening trade instruction will be an important possibility of secondary industrial schools. There are young men in business or in shops who would profit by elementary technical training but who cannot take advantage of such opportunities during the working day. One of the most important needs which these schools can fill is to better the opportunities of the youth already engaged in given vocations. The decline of the apprenticeship system incident to the subdivision of manufacturing processes has made it almost impossible for mechanics to secure a broad and generous training. There is a crying need among semi-skilled working classes for industrial education; and the technical high school would be able to offer during the evening both practical and technical trade courses to men and women already engaged in a given trade.

Dr. Balliet, who was the first school superintendent in the country to recognize the value of public evening trade schools by establishing one, writes as follows:

Technical high schools can be utilized for trade-school pupils by organizing trade-school classes in their shops as evening schools, more particularly for men already employed at their trades. There is no reason why, in the shops of every technical high school, there should not be organized a trade school running every night of the week. I see no reason either why the shops of these schools should not be open for trade-school instruction, between, say, four o'clock and six, to boys attending the elementary schools, and from half-past five o'clock to seven for men engaged at their trades in day time. Under the eight-hour law many men are free at five o'clock and could attend a trade school until seven; others could come after seven and attend until nine or ten. In this way the shops of a technical high school would be utilized twelve hours out of every twenty-four. From a business point of view, as well as from an educational point of view, this, it seems to me, would be a wise policy. It would make the instruction economical, make the school popular, and make it a powerful, uplifting force in the community.

The pioneer work of the Springfield evening schools of trades operating in connection with the day technical school has resulted in the organization of similar evening schools in various sections of the country, e. g., Cambridge, Mass., New York City, Hartford, Conn., and Providence, R.I.

IX. In the previous discussions the subcommittee has apparently omitted any reference to work for girls. In many of the institutions which have been mentioned, work for girls is as prominent a feature as work for boys. The literature of industrial and technical education is apt to emphasize the necessity of industrial and technical training for boys and to suggest courses of study adapted to their needs. There is no intention here to ignore the problem of girls' training, and much that has already been stated can be applied to the work for girls. The committee sees no reason why the technical high school, intermediate industrial school, and even some trade schools, should not include courses for girls. Naturally the courses of study would differ, but the plan would be the same. These courses should, in many respects, be different from those given to boys. There are some subjects which are studied very largely for general knowledge. These are as valuable for girls as for boys, but while the boys take a large amount of mathematics, the girls might be taught subjects which will be of more direct advantage to them. The girls in our schools will be the wives and mothers of the next generation and the courses of study should be so laid out that these girls will lead happier and richer lives and will be more successful as the future homemakers of our cities. If the maintenance of a finer order of home is a matter of the deepest concern to every member of the community, it logically follows that the appropriate training of the mother —the homemaker—is essential to the general welfare. We shall be wise, then, to test every plan for the education of women, not merely with questions of immediate expediency or of personal advantage, but always with the thought of the larger contribution to the common good, and the higher function which woman can never surrender.

A large class of girls whose elementary education is incomplete, are in imperative need of such industrial education as will enable them to earn a living wage. Thru their self-maintenance, furthermore, the standard of the family life will be immensely advanced.

The aim of the courses for girls is twofold: (1) It is to enable them, thru the right sort of homemaking training, to enter homes of their own, able to assume the most sacred duties with an intelligent preparation, and to perpetuate the type of home that will bring about the highest standard of health and morals. (2) The courses of instruction should also train for work in distinctly feminine occupations. The time is perhaps not far away when every girl will learn some specific kind of remunerative skilled work, just as we expect boys to do. This does not mean that married women will follow a vocation outside of the home, save in exceptional cases. It does mean that girls will generally earn a livelihood in some skilled work during the three, six, or eight years after leaving school and prior to marriage, and will do so for their own and

the good of society; that this earning power will raise the standards of living in their parents' families and give the impulse to a higher level when the girls marry and start their own homes; and further, that this possession of skill in remunerative labor will, after marriage, afford protection and support when a family loses its male head.

Professor Andrews, of the Department of Domestic Economy of Teachers College, New York City, presents the following figures:

> In the United States one married woman in five is a widow and is responsible, as was her deceased husband, for her own support and usually for that of her children. Woman's present relation to remunerative employment in the United States is shown by two facts: (1) Of women over 10 years old, 18.8 per cent. were, in 1900, engaged in remunerative employment. (2) Of the 377 lines of employment for men and women listed in the census, women had, in 1900, entered all but 7, in greater or less numbers. Women are wage-earners, then, already, and if men's training is to be considered, women's must be also.

Taking these two points of view together, it is clear that industrial education for girls should embrace those subjects which the women should understand and which will be of use in life. Dressmaking, millinery, and cooking should be taught, not only with the idea of enabling girls to direct a household in a better or more economical way, but also to make them proficient enough so that they can earn a living if economic conditions demand it. It is increasingly evident not only that the demands of modern life are thrusting into the background the instruction that will be centered in the home, but also that the women are entering the industries. With the disappearance of industrial activities from the home, the increase of apartment houses, the multiplication of ready-made conveniences which have greatly modified the education of girls, there has been an accompanying increase in the number of women who are obliged to earn their living which makes it desirable that girls be trained in some special occupation. Advocates of industrial education for girls feel that training for efficiency in any line of industry will make for better women and better homes. In short, the educator is confronted with a twofold problem, as far as the education of girls is concerned: (1) Opportunity must be given for women who are never to become wage-earners to gain a knowledge of industrial conditions and processes through the introduction of technical and scientific schools and courses. (2) Opportunity must be given for women who are obliged to become wage-earners at an early age to receive training which will enable them to enter some specific industry where continued development is possible.

A brief description of the Boston Girls' High School of Practical Arts will point out how girls are trained to meet these two needs: The school has a four-year academic course in which the girls receive a general education which better prepares them for future duties in the home and in society. The academic departments are English, history, art, mathematics, science, and modern foreign languages. The industrial department presents household science and arts, sewing, dressmaking, and millinery. The instruction in the practical

arts aims to give not only a knowledge of the various processes in each industry studied, but also a comprehensive understanding of these processes in relation to the entire scheme of work. This instruction should insure for the girls who seek employment advancement to places of responsibility in the industries open to them. The purpose of the art department is the cultivation of taste thru a study of the principles of beauty and its application to the problems of dress and the home. The course in mathematics has two distinct purposes: to train the girls to think logically and clearly, and to enable them to solve simple problems intelligently. A woman should be able to write down her household accounts accurately as well as to understand the principles of algebraic and geometric problems. Principal Weaver of this school writes as follows:

A general course for all girls is given during the first year. At the beginning of the second year they may choose for their industrial course which runs thru three years, either domestic science, dressmaking, or millinery. While especial attention is given to this chosen industrial subject, training sufficient for home needs is given in the other two. In the millinery and dressmaking courses an effort is made to introduce shop methods; a study is made of the materials used and of their cost; record slips showing the amount of material, price, and time given to the work are kept with each piece of work. The work of the drawing-room is closely related to that of the shops. Before a garment, or hat, is begun, a drawing is made giving full details; the design taking into consideration the figure of the girl, the quality, and kind of material to be used. This design is taken to the shop and serves as a working-drawing. When the garment is completed another drawing is made of the product. The same plan is pursued in the millinery course. The pupils taking domestic science make drawings along the lines of house-building, furnishings, decorations, etc. We fully realize that drawing is the basis of our shopwork. Inasmuch as this school has been in existence less than two years I am unable to give any information touching graduates. I have, however, great confidence that girls who finish this course will find employment at fair wages, and be able to advance rapidly to good positions. Our academic work, as well as the drawing, correlates with the shop. Descriptions of various processes, with materials in hand, are required as lessons in expression in good English. The chemistry deals with the questions of food, clothing, and shelter. The aim of these courses is to set before the girl the highest ideals of home life; to train her in all that pertains to practical housekeeping; to cultivate good taste in furnishings and decoration; to give thoro instruction in sewing as a foundation for dressmaking and millinery by such training as shall lead the pupil toward the highest standards in the selection and making of her own garments and give her the ability to plan and execute for others.

The Cleveland Technical High School has a department of industrial-art training for girls. The nature of the studies and the purposes in view are so different as to demand a separation of the girls from the boys. There is therefore organized within one building a boys' school and a girls' school. The purpose of the work in domestic science is threefold: (1) To teach all subjects pertaining to the care and duties of a home, that girls may be prepared for practical housekeeping; (2) to teach all theory relating to the above subjects as applied science, that girls may acquire intellectual development as well as practical skill; (3) to teach institutional cookery and kitchen management as trade subjects, that students may be prepared for catering as a voca-

tion. To attain the end of training for housekeeping all work must necessarily be very practical and comprehensive. The home is a complex institution and its management involves the study and practice of preparation of foods, cooking and serving entire meals, washing and ironing clothes, cleaning, first aid to the injured, care of invalids and children, household accounting, expenditure of income, marketing, house-planning, sanitation, household furnishing, and decoration. All these must be taught in the most specific and practical ways. Each student must be taught not merely about doing household duties, but to do them. An attempt is made to correlate with the technical subjects all academic subjects included in the course for girls. In arithmetic, problems are given involving the standard weights and measures used in cookery. The student is drilled in dividing the quantities used in the ordinary recipe that she may appreciate the relation of the individual to the practical recipe. The cost of various foods at different seasons is computed in order to obtain an estimate of the average cost. The keeping of household accounts and divisions of the family income are also problems to be solved. Exact computation of food values and the grouping of these foods to form well-balanced menus involve mathematical problems that are studied with profit to the housekeeper in the arithmetic class. The course in chemistry is directly correlated with domestic science, and its aim is to give such experiments as will be of practical value to the girls after finishing school. For instance, if eggs are cooked in the kitchen laboratory, during the same week their composition and properties are ascertained in the chemical laboratory—hence, the theory of foods in the second-year cooking classes deals largely with food composition and food manufacture. Domestic-science subjects are often given as themes in the English classes. See also the courses in domestic and applied arts for ways in which these are correlated with domestic science. In short, all technical subjects involving homemaking are taken as the basis of the course for girls, and the rest of the studies are grouped around these. The lunchroom in connection with the school affords excellent opportunity for the girls desiring to specialize in institutional cookery. After having learned the fundamental principles of cookery, the student may go into the kitchen of the lunchroom and prepare food in large quantities and also study the management and plan of conducting such an institution. The aim in domestic art is to give such training as will enable girls, as they grow to womanhood, to appreciate the practical, economic, and artistic value of various materials in their application to dress and home furnishings. The course includes plain sewing, the making of outfits for use in the departments of domestic science and domestic art, undergarments, shirt-waist suits, simple summer dresses, and millinery. Principles of handwork in the way of rolled edges, setting-in of lace, hand-run tucks, and elementary embroidery are introduced and applied to underwear. Original designs made by the pupils are used for this work and in the decoration of the table linen for the dining-room of the domestic-science department. The course in spring and fall millinery is

provided for girls who have learned some of the fundamental principles of sewing. Millinery affords the girls a broad expression of individuality and aims to create an appreciation of artistic color combinations and appropriateness. The subject is closely connected with the courses in dressmaking and applied art and consists of talks on materials used in millinery, wiring hats, making buckram and straw hats, wire frames, facings, building bows and covering frames, renovation of old material, and trimming hats. Attention is given to economy, simplicity, suitability, and the cultivation of artistic taste in all lines of work. The work in applied arts correlates in very definite and practical ways with dressmaking, millinery, domestic science, and the mechanic arts and crafts and with the many occasions in daily life in which an intelligent appreciation of fitness and beauty add greatly to vocational success or personal happiness. Complete courses in plain and hand sewing, machine sewing, spring and fall millinery, and the applied arts are available to women in evening classes. Plain cooking and whatever allied courses may be called for by a sufficient number will also be within the scope of the night school.

MINORITY REPORT

As a member of the Subcommittee on Industrial and Technical Education in Secondary Schools I have signed the foregoing report; but while I agree in the main with the other members of the committee, I find that my observation and experience constrain me to take exception to the definition of the "technical high school" as it appears in the main report. In my opinion technical high schools should occupy the field just below that of the engineering schools or technical colleges without losing their naturally close relation to them. To give them this relation is not necessarily to make them merely preparatory schools for such higher institutions. Rightly directed they may give thoro training for industrial service in the lower sphere without losing sight of the possible engineering student. On the other hand, to deny them all preparatory-school functions is to specialize them to such an extent that they cannot, in my opinion, become a large element in the secondary-school system of the country. In all cities where it is possible to organize highly differential types of secondary-school work in separate schools, designating them so that they will assist parents and pupils in making a wise choice, the specialized technical high school, as contemplated in the definition to which I would take exception, may be of great service; but my strong conviction is that the development of secondary technical schools in cities of moderate size and in the country at large might receive a serious set-back if a broader definition of their function is not recognized. In fact, a few technical high schools are already successfully carried on under this broader definition. Owing to local conditions they could not have been organized under any other definition. They offer an encouraging example to other communities similarly situated. Their existence should be made consistent with this

report without necessarily compromising the point of view which recognizes the value of a more highly specialized form of secondary technical education for certain other communities. Furthermore, it is generally recognized that the open-at-the-top policy is a natural characteristic of American education. I am not able to see in the existing educational situation any universal condition that demands that all secondary technical schools should frankly abandon preparatory work for higher institutions and especially for higher technical schools or for engineering courses in college or university. I therefore offer the following

DEFINITION

The secondary technical school or the technical high school is a school of secondary grade, the distinctive tho not sole purpose of which is to prepare its students for industrial leadership—i.e., for positions of great responsibility in industrial life, requiring technical knowledge, tho not so profound as that of the engineer, and a certain skill, tho not so highly specialized as that of the skilled mechanic. In such a school much of the instruction deals not only with the important manual operations but also with those principles of science and mathematics and their direct applications in industrial work which will help to prepare a student for successfully mastering the more fundamental processes and problems of those groups of industries which the school is designed to reach. It assumes to be the finishing school for large numbers of boys and girls and therefore must contain in its curriculum the essentials of those studies which give breadth of view and inspire to self-improvement. To many of its students it may open up new prospects and reveal a capacity to realize them. If any considerable number of students in such a school wish to prepare for continuing their studies in higher institutions, special provision should be made for them without interfering with the distinctive aim of the school.

CHARLES F. WARNER

A SELECTED BIBLIOGRAPHY ON INDUSTRIAL EDUCATION

NOTE

In preparing this bibliography of the literature on Industrial Education to accompany the report on "The Place of Industries in Public Education," the principal aim has been to select the most serviceable books, reports, and periodical contributions dealing with the various aspects of the subjects which are considered in the report.

While but few of the writings listed deal exclusively with European Industrial education, many foreign references and illustrations occur in the literature dealing with the American phase of the problem.

In order to keep the lists within reasonable limits only books published since 1892 and articles from periodicals and society proceedings since 1900 have been selected. The list has been revised to July, 1909.

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The following are papers and discussions presented before the National Council at Boston on the

REPORT OF COMMITTEE ON THE PLACE OF INDUSTRIES IN PUBLIC EDUCATION

A. INTRODUCTORY ADDRESS

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The report upon the Place of Industries in Education submitted to the Council is confessedly, in one respect at least, not comprehensive. It is written by school men and deals solely with schools. This means that it represents, almost inevitably, a common weakness of such studies in that it discusses a part of a whole process without setting forth the nature of the conditions, limitations, and results that obtain in the other part.

In other words, the present-day problem of industrial education is one that cannot be adequately dealt with by the school alone. It is an affair in which the largest element is the training, experiences, and development obtained in commercial practice, in which the office of the school is either supplementary or preparatory.

To make the school an effective instrument in industrial education we need to place it in intimate co-operation with the industrial situation. To do this wisely and successfully we need to know as school men much more about industrial conditions. We need to know more about the exact conditions under which boys and girls enter the industries, the nature of the educational influences that surround them in the learning period, and the limitations of these influences.

The data that we need are not a matter of generalization, for in an exact sense there is no general problem of industrial education, but a thousand specific problems. To meet the situation intelligently and successfully we need to know the exact conditions that the learner faces in all the important industries of the country.

We need to know the degree of specialization or division of labor represented in each trade; the proportion of unskilled, low-grade skilled, and high-grade skilled workers and the nature of the tasks performed in each grade; the wages of workers in each group; whether the trade is localized or general in its distribution. We need to know the qualities demanded in workers, such as strength, endurance, intelligence, accuracy, quickness, and artistic feeling; and most particularly we need to know the conditions under which beginners enter the various trades and the influences that surround them; whether they are confined to a narrow range of operations leading only to low-grade and low-pay positions or whether they have opportunities for a broader range of experiences and the chance to develop into high-grade work; whether the tendency is to reduce them to a cog in a

machine or whether the influences are such as to stimulate intellectual growth and ambition.

Such data are not at the present time available. They exist only in piecemeal. For their development we must rely either upon comprehensive investigations undertaken by state or national government or upon local studies of particular situations. The need of such data is vital in the present situation. We still talk of industrial education in purely general terms, but until the school provisions of a locality shall bear an exact and intimate relation to the needs of its particular industrial community we shall not have industrial education in any true sense.

We have heard much of late years concerning the schools of Germany, but we have not yet had in any full sense an exposition of the German scheme of industrial training. The fundamental fact, and the fact that constitutes the essential strength of the German system of industrial education, is that it is primarily an adjustment of school instruction to the conditions of the shop and factory. Not until we know the facts as to the training of the young worker in the industries, and the way the school dovetails into this training, shall we have the full story of German industrial education. Not until we appreciate the work that the German government has done to restore and to sustain the influence of the old guilds, and thru them to protect, advance, and safeguard the apprenticeship system and other methods of industrial training shall we understand rightly the German attitude toward industrial education. Industrial education in Germany is never a generalized affair. It is always a studied attempt to supplement and round out the training obtained in some specific trade in accordance with the needs of advanced modern industrial practice.

Furthermore, and a very significant fact for us, a very large number of the industrial schools of Germany are directed and largely supported by trade guilds or associations, and when this is not the case, such associations often have a great influence in their control.

While we have this great principle of co-ordination to learn from Germany, it is very true that conditions in this country differ so materially from those in the older nations that our specific institutions for industrial education must necessarily take on different forms and methods.

In Europe, particularly in continental countries, a boy's career is virtually fixed by family traditions and family resources. At fourteen years of age the son of a craftsman or mechanic almost inevitably enters upon a trade similar to that of his father and the problem of industrial education for the boy after this point is, consequently, a problem of supplementary education thru the continuation school.

In our country these conditions do not obtain. All the influences that bear upon the boy in school and out of school life tend to confuse rather than settle his ideas as to a career and arouse a spirit of restlessness and disinclination for industrial work. To bring a neutralizing element into

this situation and to influence boys well fitted for industrial work toward the industries, we need first of all varied, stimulating courses of manual training in the elementary schools. Not manual training that is merely busy-work with tools or the making of decorated knick-knacks, but well-organized constructive work that will give at each step some knowledge and experience in real industrial processes and that will have for its total result added insight into industrial methods and added interest in the doing of real industrial work.

Such a provision we would do well, it seems to me, to consider as a peculiarly American need. Altho suggestions for such work have in the past come to us from Europe, and altho extensive systems of manual training exist in many of the older countries, it is apparent that the tendency toward congestion in our large cities, the almost complete lack of constructive manual experiences by the youth of these cities, and the disturbing character of our social ideals as they bear upon boys and girls, make such work for us a peculiarly important and necessary foundation for an effective system of industrial education.

It is apparent, on the other hand, that the vocational school for boys and girls from fourteen to sixteen is an institution demanded peculiarly by American conditions. The practices and prejudices obtaining in our industries shut out, to a large extent, the boy and girl below sixteen from opportunities leading to skilled or high-grade positions; the character of our labor laws adds to these restrictions, and the terms of our educational statutes show clearly that it is more and more the tendency to hold American youth within the sphere of educational influences until sixteen years of age. We have, because of these facts, a situation essentially American in which the social, industrial, and educational elements all clearly demand further provision for industrial education for boys and girls between fourteen and sixteen years of age.

The high school, again, presents a problem in this field that is particularly our own. We have what might be called a great high-school population in this country. The high school is the educational ideal of the middle-class homes thruout the length and breadth of the land, and sacrifices are constantly made to allow boys and girls to attend such schools that are comparable to the efforts made in these same homes to send boys to college.

These schools exercise a tremendously fine and steadying influence in our national life, but viewed from the standpoint of the practical world they come clearly within the field of vocational education, and it would seem as if specific provisions in this direction cannot much longer be postponed. We are beginning to have high schools of commerce, and by all indications we need equally high schools of industry—schools that shall be frankly recognized as vocational and that shall devote themselves to intensive technical preparation for industrial life.

Such schools should be sharply differentiated from trade schools and

from intermediate industrial schools. Their students will come necessarily from homes with somewhat larger resources and somewhat different ideals, and their function should be to afford educational advantages that in the long run will count toward superior industrial opportunities.

In the matter of the continuation school, which so far with us is almost solely an evening school, we come to a more general proposition—a supplementary school for those already entered in the trades. In this field our needs and our conditions are very similar to those of the old countries.

Such schools constitute the corner-stone of the German system of industrial education and are by far the largest factor in that system. They are also the largest and the most important element in such development of industrial education as we already have in this country. Much has already been accomplished in this direction by private foundations but in the public schools we are hardly at the beginning. The admirable work of the Springfield evening school of trades in this state presents many suggestions for the organizations of such schools. Progress in this field would seem to demand greater and greater differentiation of courses toward the needs of actual industrial workers in place of the amateurish and indefinite type that sometimes constitutes the patronage of so-called evening technical schools.

In connection with the subject of continuation schools it is perhaps a fact that our committee would have done well to emphasize the need for a special type of continuation schools for boys and girls between fourteen and sixteen years of age. Such schools would not properly be evening schools but classes providing instruction especially adapted to the vocational needs of boys and girls of this age during the daytime, or at least before the hour of 7:00 P.M.

Trade schools are not included in the affirmative proposition of the report because in the judgment of the committee the need for such schools is limited to a comparatively few industries where the conditions are such as to render training in commercial practice difficult or inadequate, and to special communities representing exceptional industrial concentration. The question of general public support of such schools is, in the judgment of the committee, one that must be further tested and worked out by the experiments of the next few years.

These are the phases of industrial education that have seemed to your committee to represent the largest possibilities before the public schools of this country, whether considered from the side of practical results or the possibilities of public support. Taken singly your committee feels that each division represents an element of far-reaching importance, and in their entirety it submits them to you as an attempt in the light of today to outline a comprehensive program of public industrial education.

B. MANUAL ACTIVITIES IN THE ELEMENTARY SCHOOL

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For thirty-five years educational leaders have had much to say concerning the need for manual activities in elementary education. During the latter part of this period the number of schools having manual training in their curricula has rapidly increased, until now one-half of the thirteen hundred organized local school systems in the United States have this subject in one or more of their elementary grades. In only one hundred and fifty of these cases, however, does handwork extend thru all of the grades of the elementary schools, and of the six hundred school systems having manual training, three hundred give less than an hour a week to the subject, and only thirty-seven as much as half an hour a day.

These facts justify the statement that the country at large has not taken seriously the manual-training propaganda. Vastly more has been said than done and, with a few notable and gratifying exceptions, manual training remains in the main an isolated, abstract, and unprofitable fad, attached to, rather than incorporated in, the curriculum of the elementary school.

This means, of course, that, notwithstanding the notable advance in a few communities, the country as a whole has lost a magnificent opportunity for educational achievement. Enough time, money, and energy have been expended upon manual training in elementary schools during the past twenty-five years to have demonstrated the claims of its advocates; to have convinced the entire country that manual activities are not only desirable, but indispensable, in elementary education. Taxpayers have waited for facts while educational leaders have furnished opinions.

An inquiry was recently made among one hundred and fifty superintendents of schools, in cities having elementary manual training, as to the available evidence concerning the value of manual training. These superintendents were asked to indicate what records they had of work done and results obtained that would show the effect of manual training upon:

a) Regularity of attendance;
b) Continuance of pupils in school (elimination);
c) Rate of progress of pupils (retardation);
d) Progress of pupils in other school subjects;
e) Physical welfare of pupils; and
f) Success in vocations.

They were asked also as to the available evidence concerning:

g) The most profitable time-allowance;
h) The value of manual training as an index of specific mental and physical traits;
i) Specific abilities developed by various types of handwork;
j) The relative importance of native abilities and special training in determining success in various types of school work and vocations.

It is extremely significant that 67 per cent. of these superintendents stated that they had no data whatever upon these points, and that only 15 per cent. stated that they had evidence on as many as five out of the ten points in the list. In the absence of concrete evidence, school boards and taxpayers quite naturally and quite properly have maintained a skeptical attitude toward manual training. If there were no other reason this would be sufficient to explain the weak grip that manual training now has on the educational practice of the country. But there is another important explanation of the failure of manual training to win its way. The very term "manual training" suggests the now discredited "faculty psychology" with its will-o' the-wisp of general discipline.

In the general movement toward social aims and social motives in education, manual training has to a very large extent lagged behind. Possibly it is no farther behind than other subjects in the curriculum; but by reason of its early promise much more was expected of this subject than of others in support of a social program for the elementary schools. It is this demand for a more concrete and more distinctly social program that explains the extraordinary transformation of manual training that is now in progress.

The remarkable interest in industrial education, which is now probably the most dominant factor in the educational thought of the country, has all but eclipsed the interest in elementary manual training. It is significant that the program of the Manual Training Department at the present session of the National Education Association is given over almost entirely to the consideration of industrial education, and this has been true of the programs of this department for the last three or four years.

Other evidences of the rising tide of interest in the industrial as opposed to mere manual activities in the school are of course familiar. Laymen and professional leaders of education alike have deplored the social injustice of a school system which provides directly for the special needs of the 25 per cent. of children who ultimately enter the commercial and professional pursuits, but ignores the requirements of the 75 per cent. who enter industrial pursuits. National and state teachers' associations have devoted a large part of their programs to the discussion of this urgent issue; a new department of the National Education Association has been established for the study and promotion of technical education; state legislatures, special commissions, a national society for the promotion of industrial education, manufacturers' associations, the United States Commissioner of Education, the governors of many states, the President of the United States, the American Federation of Labor, and numerous other bodies and individuals have added the weight of many preambles and resolutions to the nation-wide demand that the schools draw nearer to human needs and equip our boys and girls for the struggle of modern industrial life. The educational and general press have given the subject a degree of publicity that is rarely accorded any similar matter. The whole country has repeatedly been

astounded by the statement that, according to the report of the State Commission on Industrial Education, twenty-five thousand children in Massachusetts between the ages of fourteen and sixteen were either idle or at work.

During these years, elementary manual training, with only a distant relationship to vocational pursuits, like Cinderella has remained demurely in the background, waiting for some fairy godmother to change her tattered rags into silken robes.

More important than these reasons for the failure of manual training to hold its own in the struggle for recognition and support, however, is the fact that educational leaders themselves have not yet found a consistent and defensible basis upon which to develop a program of handwork in the elementary school.

One of the most significant features of the report on the place of industries in public education is the fact that it definitely recognizes the place of industries in elementary education, and presents a program which it is hoped will hasten the metamorphosis of manual training. The report was originally projected "for the purpose of collecting data concerning the manual-training work done thruout the country," and to suggest "courses adaptable to various conditions."

While the report in its general scope is somewhat larger and possibly somewhat different from that originally proposed, the committee believes that, in view of current tendencies in thought and practice, it has properly interpreted the spirit of the resolution under which it has carried on its work.

The report of the Subcommittee on Industries in the Elementary School attempts to sum up and put into coherent and concise form the results of the best thought and practice of recent years. If this service has been acceptably rendered the reports should furnish at least a provisional starting-point for a more intelligent program of manual activities in the elementary school than has heretofore been attempted. That such a platform is sorely needed is evidenced by the striking lack of agreement among educational leaders as to the significance of manual activities in the elementary school.

In the inquiry before referred to, the superintendents were asked to indicate the importance which they attached to each of eight suggested values of manual training in elementary school. These eight suggested values were as follows:

a) General mental training—e.g., accuracy, honesty;
b) General manual skill—e.g., precision, dexterity;
c) Industrial intelligence—e.g., ability to learn a trade quickly;
d) Specific abilities—e.g., skill in a particular process;
e) Vital motive for school work otherwise uninteresting;
f) Makes stronger and more lasting the results of instruction;
g) Intelligent appreciation of industrial life;
h) Culture—enrichment of intellectual and social experience.

In order to summarize these estimates of value, I have counted the number of cases in which a superintendent placed each of the suggested values in the upper half of his own list, that is, first, second, third, or fourth in order of importance. Rated in this way, the list stands as follows:

General mental training, 65;
Industrial intelligence, 57;
General manual skill, 55;
Vital motive for school work, 50;
Intelligent appreciation of industrial life, 45;
Strengthening the result of instruction, 40;
Culture, 40;
Development of specific abilities, 20;

General training is given first rank by 29; culture by 20; and general manual skill by 17.

It is instructive to note that while the great majority of the superintendents were perfectly frank in admitting the lack of concrete evidence as to the effect of manual training upon the mental and physical development of children, they had no hesitation whatever in making a definite rating of each of the suggested values for manual training.

One of the superintendents frankly states that he has not studied the question, and gives no answers. One states that his estimates are guesswork; one feels much uncertainty beyond the first two or three; and one states that in his judgment the importance varies with the pupils. The others give definite estimates, in almost all cases assigning weight to each of the eight suggested values.

These answers make it evident that there is no general agreement among our active leaders in education as to the place of manual training in the elementary school. Unless there can be a more widespread agreement, tentatively at least, upon the place of industries in the elementary school, we cannot expect results during the coming decade to be more favorable than those of the past decade.

If the conclusions of the committee's report can command the confidence of educational leaders, and can be accepted as a point of departure, a tremendous step in advance will have been taken. In addition to this there should be a concerted effort to avoid one of the most serious mistakes of the past, by providing for definite records of work undertaken and results accomplished, that will enable teachers, superintendents, members of boards of education, and citizens everywhere to read the story of achievement for any school or system of schools that has such a story to tell.

When educational leaders are in position to support their arguments by adequate records of work done and results accomplished, they will get not merely the uninformed and passive approval, but the active and intelligent co-operation of the communities whose educational interests they serve. With such co-operation, under informed leadership, in every community,

we shall approach the time when sham and inefficiency will be eliminated from our system of education and 100 per cent. of our children will get 100 per cent. of the value that school training should represent.

C. INTERMEDIATE INDUSTRIAL SCHOOLS

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Discussion and experimentation in vocational education have proceeded to that point where we begin to get more detailed and particular problems before us. This movement toward plans and specifications will have to continue much farther before we shall be on secure ground in this new field of education. We are beginning to make surveys of the special situations before us and to examine the problems which they suggest. It is the purpose of this part of the report of the Committee on Place of Industries in Public Education to examine a limited field—limited as to the age and attainments of children concerned, as to the vocational field considered, and as to a particular type of education.

Several assumptions underlie the discussion of this chapter; these are absolutely necessary to the argument. It must be remembered that we are in a region where little experience is available. These assumptions themselves may legitimately be made the basis for discussion and for difference of opinion; but that some kind of assumptions must be made, is evident.

1. Vocational education which shall be of significance to the rank and file of workers must, under present conditions, find its beginnings at or about the age of fourteen. We may make school attendance compulsory for whole or part time to the age of sixteen, or later, in the course of time; but it is repugnant to all students of education that the schooling of all boys and girls between fourteen and sixteen should remain abstract and bookish.

2. It is agreed that for the majority of children in the industries the economic value of their work, between fourteen and sixteen, is not often profitable and the educational value of this work is only seldom so.

3. Genuine vocational education must involve considerable work under actual conditions of production with a usable and valuable product resulting; but the production of usable output must be subordinated to the educational necessities of the pupil.

4. The academic, technical, and book studies must grow out of, and relate closely to, the practical (that is, shop or field) work. The great danger of present industrial education is its tendency to have the practical work and the academic on planes so widely apart that they do not reinforce each other.

5. Only occasionally will it prove practicable to teach specialized trades in the stages from fourteen to sixteen. We must discover the general foundations for groups of related industries and from these derive the productive practice and technical studies that will give a broad foundation and at the same time make possible specialization either in factory or trade school after the age of sixteen.

6. It is possible to divide industries now representing many hundreds of special subdivisions into a score or more of fundamental groups, each one of which possesses many common characteristics in materials used, tools employed, and technical studies basal thereto. In other words, we must discover those industries which possess a large

number of common elements and from them derive suitable material for vocational education.

7. It is also assumed that industries are sufficiently specialized or localized in a geographical sense that schools may be erected which shall minister in a fairly full measure to given communities.

On the basis of these assumptions the report is erected. It is not necessary here to review the positions taken or the conclusions reached. The report should speak for itself.

It seems to the writer that the chief defect of the report is its failure to utilize more fully the experience of existing schools. This experience should be gone into and its successes and its failures pointed out in considerable detail. The report should also present a more detailed analysis of other situations which may be reached by industrial education corresponding to those in which some results have already been achieved.

On the whole, however, it would appear that the most conspicuous defect is the failure of the report to discuss the possibilities of the so-called part-time solution of vocational education. It should be obvious that the kind of vocational education described in the report must prove very expensive if the schools are obliged to reproduce so many of the conditions of an actual industrial plant. On the other hand, where factories and shops are found themselves, the opportunities for practical work should surely be abundant. Theoretically, it would appear that the most probable solution of the problem of intermediate vocational education is to be found in the co-operation of school and industrial plant, the former to give the technical training and the latter the practical concrete experience. In this way, too, the maximum of productivity could be realized from the labor of the youth. The solution of the problem along these lines will involve a degree of co-operation between employer, and skilled laborer, and school, such as we know little about at present; but undoubtedly it is a solution of which the American spirit is capable. This solution would require that some one authority should have final control of the entire educational program of the pupil, but subject to these limitations the work of the pupil in any department should be for the benefit of the department.

DISCUSSION

John G. Thompson, principal, State Normal School, Fitchburg, Mass.—The American elementary public school with its education derived almost entirely from books has built up in the minds of its pupils an erroneous idea of the world in which they are to live and has developed a wrong attitude toward industrial life. The school has taught—perhaps not intentionally—that education enables a man to earn his living without work, and that one of the prime objects in attending school is to avoid the necessity of laboring with the hands.

We are beginning to realize our mistake, and to see that the school should introduce its pupils to the industrial side of human activity as well as to the literary. In attempting to do this we are, it seems to me, facing a grave danger in the possibility, perhaps the likelihood, that thru differentiated courses in the elementary schools the future industrial worker will come to be looked down upon by those fitting for literary and professional

pursuits. The course of the future industrial worker must finally diverge in the secondary schools from that of the future literary or professional man, but we must in the elementary school so present manual labor and human industry that every pupil, rich and poor alike, will come to look upon them as being always as worthy and often as more interesting than mental labor. To assure this, it is absolutely necessary that every child in the elementary school, without regard to his probable future, shall work with his hands—not in the dilettante, emasculated manual training too common today—but in doing a part of the world's work—doing something that needs to be done—doing it under competent direction, in a workman-like manner, and with proper dispatch. When this phase of elementary education is recognized as of as much importance as the study of books and is required of everyone, the desired reform will have been effected without making the American school an agency for creating or for emphasizing class distinctions.

H. B. Brown, president, Valparaiso University, Valparaiso, Ind.—That new subjects should be injected into the already overcrowded curriculum of the public schools simply because there is a seeming demand for them, is not wise. In the large majority of these cases the new classes are fads and are shortlived, and have no educational value. Really, what is most needed in all our schools is that a lot of the rubbish which has from time to time found its way into the curriculum should be culled out. Even if no additional work were placed in its stead the course of study would be stronger and the pupil would more intelligently comprehend what he does study. The result would be a sounder preparation for the vocation which the child might choose to follow.

Whether industrial education shall become a part of the public-school system or not scarcely admits of question. It is only necessary to consider the trend of progress in the industries in order to find the answer. Time was when the boys and girls received at home sufficient training in this direction to make them strong, vigorous workers in any occupation, but that time has gone by and now the training of these young people must come from the schools or from the factories. The schools deferred it until the necessity of the factories became so great that they were compelled to organize training schools for their needs. This in almost every case, however, has been found unsatisfactory simply because the education thus afforded was one-sided.

The preparation of young people for the duties of life cannot be delegated to any activity outside the school. Formerly it was only necessary to prepare students for the professions, because they had already been equipped by home training for farm, shop, and factory work, but on account of the meagerness of the necessity for the use of tools no thought whatever was given to training in this direction. This was proper considering the conditions then existing.

The going away from home to school was the equivalent of bidding farewell to farm and trades. Nothing but some one of the professions was in view. The false notion was entertained that by means of an education followed by one of the professions the young man would become prominent in the affairs of the world and wealth would flow into his hands. To such an extent did this idea prevail that no small part of the encouragement given by parents to children to attend school was that they might make a living without working so hard, and no sacrifice was too great on the part of parents that the children might complete a course of study. This idea prevailed to such an extent that the changing conditions in the industrial world were overlooked. The introduction of machinery, the settling of the great prairies, the establishing of great factories—all called for the very best element of rural as well as of city life. Opportunities were offered to all who were willing to make the effort for rapid and remunerative advancement. Marvelous inventions and almost incredible discoveries were made in the various industrial departments. Still the schools kept on educating for the professions. The only wonder is that existing conditions are as satisfactory as they are.

Industrial training is manual training, mechanic arts, agriculture, and trade school

all combined. This discussion, however, relates to that embracing manufacturing and mechanic arts, referring to the needs of the child from fourteen to sixteen years of age. These questions confront us: (1) How shall industrial training be introduced? (2) When shall it be introduced? (3) What shall be the character of the work? Of course in the three minutes which are allotted to me for presenting this subject statements only can be given, but not reasons.

I have stated above *how* industrial training shall be introduced—by omitting non-essentials in the curriculum and placing essentials in their stead. This brings us to the second question, "When shall industrial training be introduced?" We all will agree, perhaps, that it should be in the early education of the child. What is most needed is a thoro systematic course of training in the essentials of an industrial education. Then when the child has completed his elementary education he will have enough of his latent power developed to cause him to see the value of a literary education reinforced by the industrial, thus bridging over the chasm between the elementary course and the high school. This would obviate the necessity for any special work for the child from fourteen to sixteen years of age, thus preparing him for all classes of work. We do not teach geometry for the sake of geometry but as it may be an aid in engineering, physics, chemistry, etc., So should industrial training be considered. It must be such an education as can be used in all of the industries.

As to the character of the work, if it be a part of the curriculum the demand of the industries will indicate. Judging from this it would be necessary to have elementary manual training, benchwork, woodwork, pattern-making, mechanical drawing; of course followed in the high school by lathe, forge, and metal work. The course of study must be of such a character that its mastery will compel the child to think *in* the work of industrial training, not *about* it. This awakens his inventive faculty and enables him to see into the future. It teaches exactness and completeness and his habits are formed along these lines, so that when he undertakes anything he finishes it. This will prove a great factor toward encouraging him to take a higher course of study.

If, however, industrial training is not a part of the course of study, then there should be a course occupying two years at least which would be open to the student who cannot continue his literary work beyond the elementary stage. This course should consist of bench, wood, metal, forgework, pattern-making, descriptive geometry, and drawing, and should occupy such time as may be found most practical for preparing the student for the duties which he must meet. These subjects can be taught in all the schools without any great expense. Full equipments need not be placed in any excepting town, township, and city schools, as these will place the real work within the reach of everyone.

James M. Green, principal, State Normal School, Trenton, N.J.—The statement has been made that the attitude of organized labor toward the apprenticeship system is such as to make it practically necessary that our schools give industrial education if our people are to be skilled in industries sufficiently to compete successfully with other nations. This statement suggests the wisdom of ascertaining exactly what the attitude of labor organizations is, that we may consider whether it offers a sufficient reason for the modification of the school system and to what extent.

It is quite possible that discussion and education might modify the attitude of labor. We must assume that laboring men, at least as parents, will be reasonable.

The real educator cannot escape any part of responsibility. He must consider what will be for the best interests of the people as well out of the schools as in them, and plan his curriculum accordingly.

Again, we are puzzled to know exactly what was the apprenticeship system we are to substitute, and what constitutes a trade. As I understand it, this problem is simplified for the German by the fact that the industrial school is very often practically a part of a factory and is chiefly supported by that factory, as for instance in the case of some of the

great hosiery mills, where the town is practically given over to the one occupation and where the subjects in the school are applied to that occupation, as the chemistry of dyeing, etc. We do not know so well what our pupils are to do.

I was asked to refer especially to the paper read by Commissioner Snedden. This paper seems to me very clear and sound. He calls attention among other things to the fact that there is no trade awaiting the boys from the age of fourteen to sixteen, and that as we cannot anticipate exactly what they are to do we should give industrial education that would apply to groups of subjects. For example, "There is no inherent reason why a school for woodworking should not receive boys at fourteen and in the course of two or three years give them a wide amount of practical experience with productive work and the related technical studies, the outcome of which would be youths prepared for further specialized training, or for the subdivided factory processes." I should like to emphasize this statement and to say there is no necessary discord between it and a definition of manual training.

Arthur D. Dean, chief of Division of Trades Schools of the New York State Education Department, Albany, N.Y.—The Subcommittee on Industrial and Technical Education in the Secondary Field discovered some interesting facts in collecting its data. Some of these are enumerated:

1. A difference of opinion was evident as to whether the manual-training high school was to continue along its present lines. Nearly every correspondent expressed his belief in trade education. A few stated that such education should be given apart from the manual-training high school. More implied that the latter institution could, with some adjustment, take care of the problem of fitting for the trades. A very few seemed indifferent to any phase of secondary education beyond the confines of the particular school which they administered.

2. There was a very general feeling that more time should be given to handwork, but no one seemed to see his way clear to bring this about, as the college-entrance requirements appeared already to be crowding the handworking courses into a few hours per week. In fact, some school principals said they were obliged to neglect the fourth year shopwork altogether in the case of individual pupils who were preparing for higher institutions.

3. A very general satisfaction was expressed with regard to the kind of shopwork which the manual-training schools were doing. In many instances this complacence is unwarranted, for the drawing courses do not approach the methods pursued in the best commercial and drawing-room practice. Much of the shopwork is out of touch with present methods of production in high-grade shops. In these shops there has been introduced within a few years the molding machine, screw machine, individually driven machinery, steam hammers, drop-forging equipment, jig and fixture making, and a hundred and one devices for producing more accurately and economically the products, yet the schools have shop methods and equipments twenty-five years behind the times.

4. When the question came up regarding the close correlation of book work with shopwork, no school, with one or two possible exceptions, gave satisfactory answers. The committee inferred that the academic work was determined by college requirements, that the textbooks were similar to those of other secondary schools of dissimilar purpose and scope, and that the teachers were comparable with other high-school teachers so far as training and experience were concerned, without any reference to practical technical experience.

It is evident that the manual-training high school is missing a large opportunity in that it fails to relate the shopwork with the ordinary high-school studies. The leading purpose of such institutions—the preparing of boys for higher positions in industrial life—offers a magnificent opportunity to vitalize the two lines of work.

5. Few courses of study in the manual-training high schools have connected them-

selves with the leading industries of the community. These courses have been made like some other school in some other section of the country. It even appeared as tho courses of study had been compiled by striking an average from the data furnished from courses of other schools.

6. The last point brings us to the question of how a secondary technical school should be planned. Undoubtedly it is best developed when it is related to the local field; when its building is adapted to the needs of the local situation; when its equipment is in accordance with best modern shop practice; when its courses of study are developed after consultation with leading industrial experts of the local community. This is not the usual procedure. Courses of study, plans of buildings, and lists of equipment are sought from all sections of the country. The local school is built in accordance with other schools after the local architect has done what he can to add to the beauty of the outside by destroying the effective workings of the inside. It is well to know what other places are doing but it is also an excellent idea to know the local industrial problem and the ways to meet it.

7. Ignoring the question of evening trade work for those already employed in the industries is a grave matter in the manual-training high-school situation. There is an urgent need for evening trade and technical classes for bettering the opportunities of men and women employed in industrial vocations during the day. Existing day schools which have well-equipped shops and drawing-rooms can render no more important service than to offer such facilities to the industrial workers.

8. The minority report of this subcommittee, as signed by one member, expresses the belief of those who would have the technical high school meet all the industrial and educational requirements of the community. It ignores the fact that the report of the committee was so worded that it implied that there was a high school of another type in the community in which the high-school pupils could prepare for higher institutions. The main business of the subcommittee was to bring before the Association the question of industrial and technical education in secondary schools, and it was not primarily concerned with the question of college preparation. However, there is no need for any difference of opinion, for undoubtedly the technical high school may contain three lines of activity: (*a*) The preparation of boys and girls for industrial careers. This is its primary purpose. (*b*) It may serve as a finishing school for a large number who will not go beyond it. (*c*) It may prepare for higher technical colleges.

Such a plan involves three distinct courses or departments, with three distinct lines of academic work as well as an amount and kind of shopwork varying with the purpose of each course. Otherwise this plan of a cosmopolitan technical high school (if I may use this term) will fail of its true purpose. Unless care is used in organizing the various courses the school will merely contain a number of classrooms, a series of shops with jumbled courses of study, indefinite in their aims, illogical in their workings, and unsatisfactory to every group of students. The course which prepares for the technical college is definitely laid out by the requirements for entrance to the college. May not the course for preparing for industrial careers be laid out as definitely? There need be no argument over the name plate on the door of the school. The main point is to see to it that a class of pupils, now unprovided for, receive the industrial education they need.

Z. X. Snyder, State Normal School, Greeley, Colo.—

I. The curriculum of the public schools should contain manual training all along the line.

II. The material for any subject so far as possible should grow out of the immediate life of the child. This should take into consideration: (1) The stage of development of the child; (2) his community; (3) his taste, tendencies, and powers.

III. This industrial training should, as it moves along, reveal the child's tastes, powers, and aptitudes, and become vocational so that he may have, or be near, his earning power if he has at any time to drop out of the schools, or when he finishes his course.

IV. The industrial and vocational work should be organized in a rich curriculum that is vital in its nature, embracing history, civics, mathematics, nature study, art, and such subjects as the child's stage of development may warrant. (1) Everything should be real. (2) It should be co-ordinated. (3) It should meet the necessities of his life. (4) It should be cultural in the sense that it grows out of his life and back into it to enrich it.

DEPARTMENT OF MUSIC EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—Charles I. Rice, director of music, Public Schools.....Worcester, Mass.
Vice-President—Miss Elsie M. Shawe, director of music, Public Schools .....St. Paul, Minn.
Secretary—Miss Birdie Alexander, supervisor of music, Public Schools.....Dallas, Texas.

FIRST SESSION.—Tuesday Morning, July 5, 1910

The Department of Music Education met at the New England Conservatory of Music. The meeting was called to order at 9:30 A.M., the president, Charles I. Rice, presiding.

The program opened with an address by the president, Charles I. Rice, director of music, Worcester, Mass., on "Boston, the Cradle of Public-School Music in America."

The topic, "Phases of Music Education in High Schools," was treated in the following papers:

a) "The Study of Music Appreciation in the High School of Springfield," by Miss Mary L. Regal, West Springfield, Mass. This was followed by a discussion in which Miss Elsie M. Shawe, director of music, St. Paul, Minn., Mr. Timothy L. Roberts, supervisor of music, public schools, Utica, N.Y., Miss M. Teresa Finn, supervisor of music, St. Louis, Mo., Philip C. Hayden, director of music, Keokuk, Iowa, and others participated.

b) "The Automatic Player in Schools," by John G. Thompson, principal of State Normal School, Fitchburg, Mass. John B. Shirley, supervisor of music, Lansingburg, Troy, N.Y., Edward B. Birge, director of music, Indianapolis, Ind., and others spoke on the subject.

c) "Harmony Courses in High Schools," by Osbourne McConathy, supervisor of music, Public Schools, Chelsea, Mass.

d) "School Orchestras," by Edward Bailey Birge, director of music, Public Schools, Indianapolis, Ind., followed by a general discussion.

The following Committee on Nominations was appointed by the president:

C. H. Farnsworth, Teachers College, New York City, N.Y.
Miss Maude L. Davis, Worcester, Mass. Timothy L. Roberts, Utica, N.Y.

Mrs. Constance Barlow-Smith, in charge of public-school music, University of Illinois, Urbana, Ill., read a paper on "The Educational Value of the Folk-Song." Illustrations of German, English, Russian, Scotch, Swedish, Irish, and Welsh folk-songs were given by ninth-grade pupils from the Malden, Mass., public schools, under the direction of Melville E. Chase, director of music, Malden, Mass., and by the following adults: Miss Miriam J. Rice, soprano, Mr. Herbert E. Cather, baritone. The selections were as follows:

German	"Little Dustman"	Pupils
	"Must I Then Go?"	Pupils
	"How Can I Leave Thee?"	Mr. Cather
English	"With My Flocks"	Pupils
	"Under the Greenwood Tree"	Pupils
	"Drink to Me Only with Thine Eyes"	Mr. Cather
Russian	"The Three in Hand" (Troika)	Miss Rice
	"The Gnome"	Miss Rice

Scotch	"Scots Wha Ha'e wi' Wallace Bled"	Pupils
	"The Campbells are Comin'"	Pupils
Swedish	"Now Far, Far Eastward"	Pupils
	"Like Crystal"	Pupils
Irish	"When Love Is Kind"	Miss Rice
	"The Harp That Once thro' Tara's Halls"	Mr. Cather
Welsh	"All thru the Night"	Pupils

The department adjourned to meet the following morning.

SECOND SESSION, ROUND TABLE.—Wednesday Morning, July 6, 1910

The meeting was called to order by the president at 9:30 A.M.

The greater part of the morning was devoted to a musical program as follows:

The Tel-electric Piano Player in Solo and Accompaniment

INSTRUMENTAL PROGRAM

Artists

Mr. Frederick Blair . . . . . *Cellist*
Mr. Thomas Moore Cornell . . . . . *Player Accompanist*

Piano: Scotch Dances (Op. 41) . . . . . *Dvorak*
Intermezzo, Scherzoso (Op. 21, No. 9, D Flat) . . . . . *Von Bülow*
Cello: Vito (Op. 54, No. 5) . . . . . *Popper*
Spanish Serenade (Op. 54, No. 1) . . . . . *Friml*
Piano: Hungarian Dance (No. 6) . . . . . *Brahms*
Fire-Flies (Op. 15, No. 4) . . . . . *Mrs. H. H. A. Beach*

Lecture Recital by Mr. and Mrs. Arnold Dolmetsch on the music and instruments of the seventeenth and eighteenth centuries.

PROGRAM

1. "John, Come Kiss Me," with Divisions
   For the Spinet and Octavina . . . . . *Anonymous English, c. 1600*
2. "Heart's Ease"
   For the Viola da Gamba . . . . . *Anonymous English, c. 1560*
3. Fantasie for Treble and Bass Viol:
   "La Caccia". . . . . *Thomas Morley, 1599*
4. Two Pieces for the Harpsichord:
   a) Toccata . . . . . *Henry Purcell, c. 1670*
   b) "Sœur Monique" . . . . . *François Couperin, 1700*
5. Two Pieces for the Viola da Gamba, acc. by the Harpsichord:
   a) La Plainte . . . . . *Marin Marais, c. 1700*
   b) Les Vendengeuses de Montguichet . . . . *De Caix d'Hervelois, 1731*
6. Harpsichord Pieces:
   a) Sonata in D Major . . . . . *Domenico Scarlatti, 1715*
   b) "Le Rappel des Oiseaux" . . . . . *J. P. Rameau, 1721*
   c) Musette en Rondeau . . . . . *J. P. Rameau, 1721*
   d) Tambourin . . . . . *J. P. Rameau, 1721*
7. Sonata for the Viola d'Amore, accompanied by the Harpsichord . *Attilio Ariosti, 1715*
8. Harpsichord Pieces:
   a) Introduction, Gavotte et Musette from English Suite in D Minor
   b) Toccata in G Major . . . . . *J. S. Bach*
9. *a*) Prelude and Fugue in C Major
   b) Prelude in F Minor
   c) Prelude in B Flat
   For the Clavichord (from "Das wohltemporirte Klavier") . . . *J. S. Bach*

The Pianola in Solo and Accompaniment

PROGRAM

I. Concerto, Op. 59 . . . . . *Moszkowski*
   Moderato
   Allegro Animato

Mr. Earl William Smith

II. The Daisy Chain . . . . . *Liza Lehman*

Soloists

Miss Annie E. Hollis . . . . . Soprano
Miss Adelaide J. Griggs . . . . . Contralto
Mr. Charles F. Hackett . . . . . Tenor
Mr. Leverett B. Merrill . . . . . Bass

Mr. Earl William Smith, Accompanist with the aid of the Pianola

The Daisy Chain

A song cycle

I. Foreign Children . . . . . Words by *R. L. Stevenson*
Quartette

II. "Fairies" . . . . . *Anonymous*
Contralto

III. Keepsake Mill . . . . . Words by *R. L. Stevenson*
Baritone

IV. If No One Ever Marries Me . . . . . Words by *Laurence Alma Tadema*
Soprano

V. "Stars" (Escape at Bedtime) . . . . . Words by *R. L. Stevenson*
Tenor

VI. "Seeing the World" . . . . . From "*Little Men and Women*"
Quartette

VII. "The Ship That Sailed into the Sun" . . . . . Words by *W. B. Rands*
Contralto

VIII. "The Swing" . . . . . Words by *R. L. Stevenson*
Soprano

IX. Mustard and Cress . . . . . Words by *Norman Gale*
Baritone

X. The Moon . . . . . Words by *R. L. Stevenson*
Tenor

XI. "Thank You Very Much Indeed" . . . . . Words by *Norman Gale*
Quartette

XII. "Blind Man's Buff"
Quartette

A. J. Gantvoort, Director of College of Music, Cincinnati, O., chairman of the Committee on National Songs, submitted the report of the committee concerning the best version to be standardized of "America," "Star Spangled Banner," "Hail, Columbia," and "O Columbia, the Gem of the Ocean." Since only a part of the report of the Committee was considered by the department it was deemed unnecessary to print the entire report.

On motion of Leo R. Lewis it was voted to consider the melodies only as presented in this report.

A lively general discussion followed this report and at 1:30 the department adjourned to 3 P.M.

Wednesday, July 6, 3 P.M.

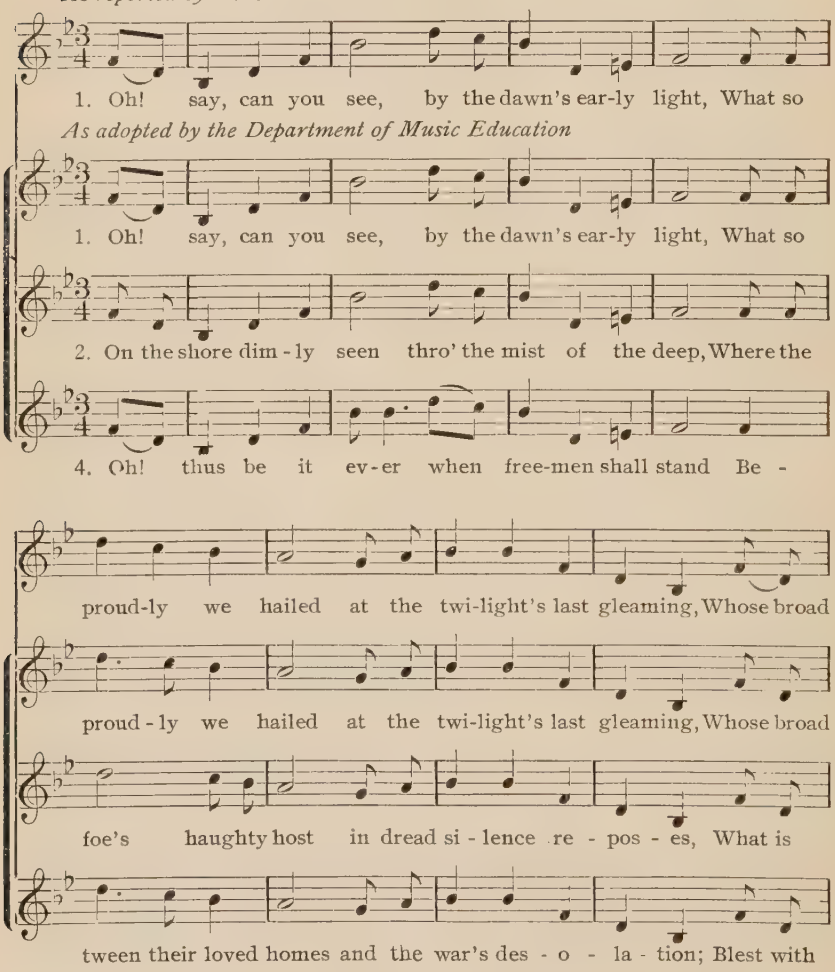
The meeting was called to order at 3 P.M. and discussion on the report of the Committee on National Songs was resumed.

The following arrangements of the melodies of "America" and of "The Star Spangled Banner" were finally agreed upon as the versions which the Department of Music Education recommends as the standard:

THE STAR-SPANGLED BANNER

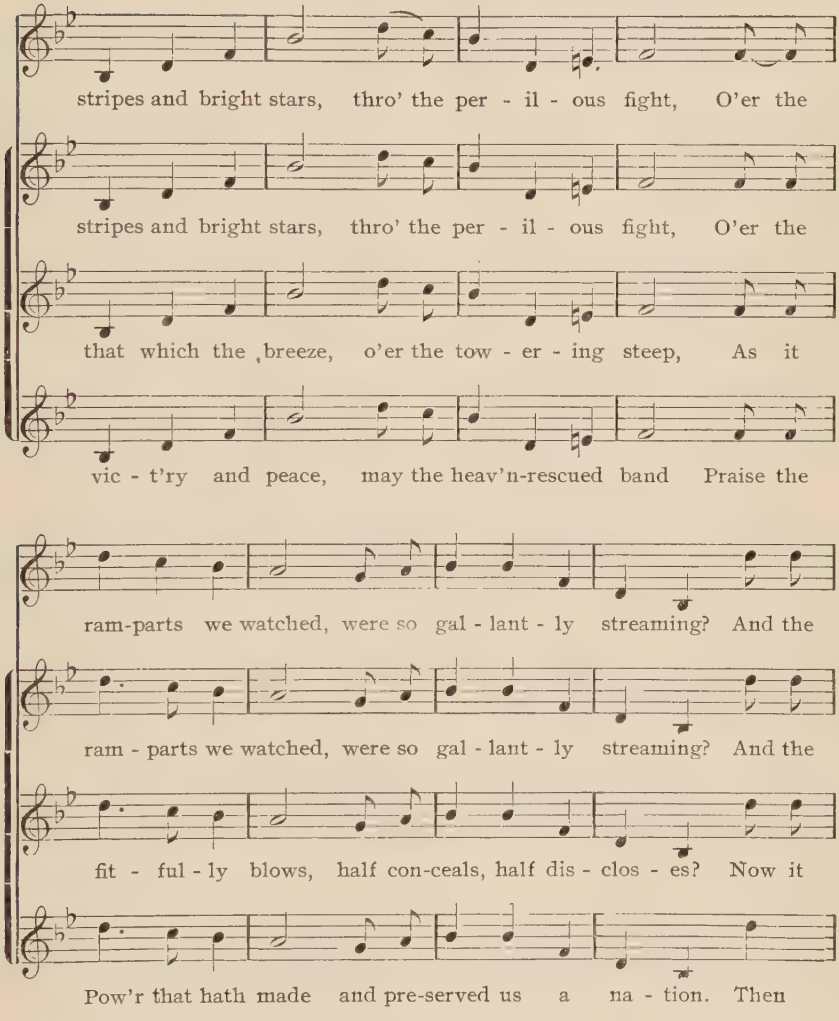
Francis Scott Key, 1779–1843 Dr. Samuel Arnold, 1740–1802

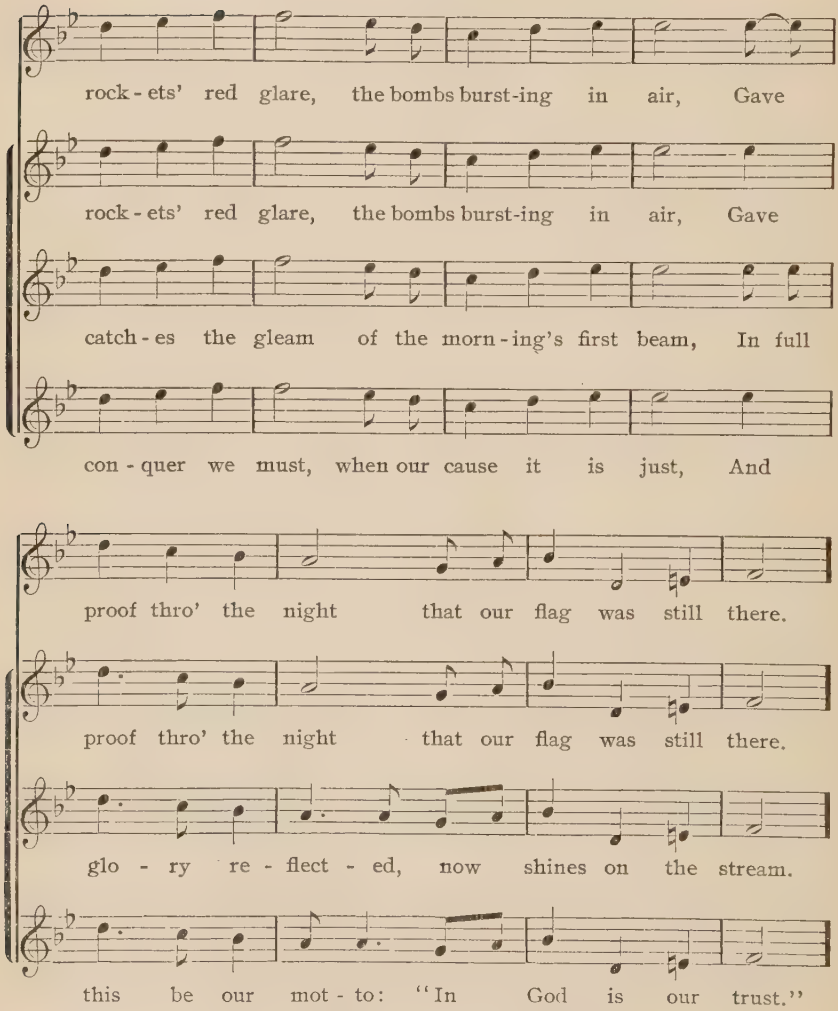
As reported by the Committee



As adopted by the Department of Music Education

1. Oh! say, can you see, by the dawn's ear-ly light, What so
2. On the shore dim-ly seen thro' the mist of the deep, Where the
4. Oh! thus be it ev-er when free-men shall stand Be-
proud-ly we hailed at the twi-light's last gleaming, Whose broad
proud-ly we hailed at the twi-light's last gleaming, Whose broad
foe's haughty host in dread si-lence re-pos-es, What is
tween their loved homes and the war's des-o-la-tion; Blest with

The Star-Spangled Banner

stripes and bright stars, thro' the per - il - ous fight, O'er the
stripes and bright stars, thro' the per - il - ous fight, O'er the
that which the breeze, o'er the tow - er - ing steep, As it
vic - t'ry and peace, may the heav'n-rescued band Praise the
ram-parts we watched, were so gal - lant - ly streaming? And the
ram - parts we watched, were so gal - lant - ly streaming? And the
fit - ful - ly blows, half con-ceals, half dis - clos - es? Now it
Pow'r that hath made and pre-served us a na - tion. Then

The Star-Spangled Banner

rock - ets' red glare, the bombs burst-ing in air, Gave
rock - ets' red glare, the bombs burst-ing in air, Gave
catch - es the gleam of the morn - ing's first beam, In full
con - quer we must, when our cause it is just, And
proof thro' the night that our flag was still there.
proof thro' the night that our flag was still there.
glo - ry re - flect - ed, now shines on the stream.
this be our mot - to: "In God is our trust."

The Star-Spangled Banner

REFRAIN or CHORUS

Oh! say, does that star - span-gled ban - ner yet wave

Oh! say, does the star - span-gled ban - ner yet wave

'Tis the star-span - gled ban - ner, oh! long may it wave

And the star-span - gled ban - ner in tri - umph shall wave

O'er the land of the free and the home of the brave?

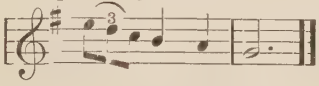
O'er the land of the free and the home of the brave?

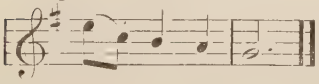
O'er the land of the free and the home of the brave.

O'er the land of the free and the home of the brave.

America

As reported by the Committee



As adopted by the Department of Music Education

The department adjourned at 5:20 P.M. to meet again the following morning.

THIRD SESSION.—THURSDAY FORENOON, JULY 7, 1910

The meeting opened at 9:30, the president in the chair.

The department expressed itself in sympathy with the ideas of the High School Teachers Association of New York City, viz.: That the requirements for college admission be enlarged so as to include subjects not now on the specified list, thus enabling pupils who decide during the latter part of their high-school course to enter college, to present sufficient credits for admission.

The first paper of the morning, "Some of the Effects of Music Education," was presented by John W. Cook, president of Northern Illinois State Normal School, DeKalb, Ill. A general discussion followed.

The following resolution was submitted by the Committee on National Songs to be presented to the Committee on Resolutions of the National Education Association:

WHEREAS, The manner of singing our national songs "America" and "Star Spangled Banner" differs widely in various cities and even in different schools of the same city; and

WHEREAS, There is therefore a great need of some agreement upon a uniform rendition of these songs;

Be It Resolved, That the National Education Association heartily indorses the forms agreed upon by the Music Section during the present meeting, and recognizes the use of these forms in all the public schools.

On motion of Miss Elsie M. Shawe, of St. Paul, Minn., seconded by Miss M. Teresa Finn, of St. Louis, Mo., it was voted that the above resolution be adopted by the Department of Music Education and presented to the general body as the recommendation of this department.

As it was too late for this resolution to be submitted to the Committee on Resolutions, it was ordered on motion that the president of the Department of Music Education submit the resolution at the annual meeting of active members if possible.

"Success in Public-School Music" was the subject of a paper by Leonard B. Marshall, assistant director of music, Public Schools, Boston, Mass. Grant Drake, assistant director of music in the Boston public schools, led the discussion.

On motion of John B. Shirley, of Troy, N.Y., duly seconded, it was voted that the present Committee on National Songs be continued for another year. The committee is as follows:

A. J. Gantvoort, *Chairman*, director, College of Music, Cincinnati, Ohio.
Miss Elsie M. Shawe, director of music, St. Paul, Minn.
Osbourne McConathy, supervisor of music, Chelsea, Mass.
R. G. Cole, Madison, Wis.
Thomas Tapper, lecturer, New York University, New York City, N.Y.
Mrs. Jessie L. Gaynor, St. Joseph, Mo.
Edward B. Birge, director of music, Indianapolis, Ind.
Mrs. C. B. Kelsey, Grand Rapids, Mich.
C. H. Farnsworth, adjunct professor, Teachers College, New York, N.Y.
Mrs. Frances E. Clark, supervisor of music, Milwaukee, Wis.

On motion of C. H. Farnsworth, of New York, duly seconded, it was voted that the Committee on Terminology be relieved from reporting this year, and that the present committee be continued for another year. The committee is as follows:

Charles I. Rice, *Chairman*, director of music, Worcester, Mass.
Mrs. Constance Barlow-Smith, University of Illinois, Urbana, Ill.
Leo R. Lewis, professor of music, Tufts College, Mass.
William B. Kinnear, supervisor of music, Minneapolis, Kans.
Philip C. Hayden, director of music, Keokuk, Iowa.

The nominating committee then submitted its report, which was as follows:

For *President*—Miss Elsie M. Shawe, director of music, St. Paul, Minn.
For *Vice-President*—C. A. Fullerton, professor of music, State Normal School, Cedar Falls, Iowa.
For *Secretary*—Miss Estelle Carpenter, supervisor of music, San Francisco, Cal.

A motion duly made and seconded was carried that the report of the nominating committee be accepted and that the secretary be empowered to cast the ballot for the election of these officers for the ensuing year.

William L. Tomlins, lecturer on music, New York City, N.Y., gave a lesson talk, dealing largely with the moral influence of music.

In order to carry out the instructions of the department to present to the active members in session the action of the department concerning the two national songs, the president left the hall before the time of adjournment and at the close of Mr. Tomlins' demonstration (the vice-president presiding) Mr. Farnsworth's motion, in so far as it relieved the Committee on Terminology from making report at this meeting, was reconsidered, and the department adjourned to meet for the consideration of the report of the Committee on Terminology at 2:30 P.M.

THURSDAY, JULY 7, 2:30 P.M.

In the absence of the president, the vice-president, Miss Elsie M. Shawe, opened the meeting.

Leo R. Lewis, professor of music, Tufts College, reported for the Committee on Terminology, stating that the committee felt that there was great need of more unification in musical notation.

President Rice here took the chair. He reported that he had been unable to bring the resolution prepared by the Committee on National Songs, before the annual meeting. The resolution would, therefore, have to hold over till another year.

REPORT OF THE COMMITTEE ON TERMINOLOGY

I will read an extract from the report prepared for use at the Denver meeting, and relate a little history.

"While the following is not, strictly speaking, connected with terminology reform, it is the opinion of the committee that some plan ought to be devised by which the many unnecessary irregularities and duplications in the notation of rhythm may be avoided. The remedy for this evil seems to lie in the uniform use of the quarter-note as the beat-unit in all forms of so-called simple measure (2-4, 3-4, 4-4) and in slow movements of 6-4, 9-4, and 12-4 measures.

"In rapid movements where the 6, 9, and 12 beats are compounded into 2, 3, and 4 beats, each beat divisible on a basis of three, it is suggested that the numerals 2, 3, 4, be used as measure-signs with a dotted quarter-note below them. The note-groups are familiar, being precisely like those of 2-4, 3-4, and 4-4 measures with triplets. This idea will shortly have a wide circulation in an article by Mr. Samuel W. Cole."

Prior to presenting the report I was told by several men from the Middle West that they had seen printed music which employed the idea embodied in the proposition to use a *note* instead of a *numeral* as the lower member of the measure-sign.

Believing that there might be something in the story I withheld this part of the report, preferring to wait and see whether Mr. Cole had innocently rediscovered something which had been mislaid and forgotten. After a correspondence which covered three months and extended into most of the states of the Middle West, I received a letter on December 1 which cleared up the matter.

In 1877 Mr. S. W. Straub, now deceased, published a book called *Convention and Choir*, in which the measure-sign consisted of a numeral above, and a note below, the third line of the staff.

I have tried to obtain a copy of this book in order to see what was said concerning the innovation at its birth, but the best I have been able to do is here in the shape of a copy of *Splendor*, published in Chicago in 1888, which the preface says is the tenth book published by Mr. Straub.

Mr. Cole's newly published *Intervallia* books will show you the appearance of the printed music.

The proposition that the quarter-note genus shall always represent the beat in printed music seems to me undebatable. It is in the nature of simplification without loss. By following this plan only one set of proportions needs to be learned. The quarter-note, either plain or dotted, always means: sing once in the time of one beat. The group of two eighths always means: sing two tones of equal length in the time of one beat. The group of three eighths, with or without the triplet sign, always means: sing three tones of equal length in the time of one beat, etc., etc.

The last report of the committee recommends as the best form in speaking of the meaning of the measure-signs: two-quarter measure, three-quarter measure, etc., in place of two-four time, three-four time, etc. Thus: "'Yankee Doodle' is written in two-quarter measure; 'America' is written in three-quarter measure." The measure-sign with the note as the lower member would make it easier to conform to that standard. Mr. Straub seems, then, to have made, thirty-three years ago, the simplification we are discussing today. The plates from which his many books were printed were destroyed by fire, so that the records of the idea have disappeared almost as completely as if the idea had never been.

Respectfully submitted,
CHARLES I. RICE, *Chairman*

After considerable discussion, on motion of Dr. Rix, of New York City N.Y., seconded by Mr. Kelsey, it was voted: that the quarter-note or dotted quarter-note be recommended as the beat-unit in all printed music.

On motion of Miss Shawe, seconded by Dr. Rix, it was voted that this department approves the adoption of a measure-sign which shall consist of a numeral above and a quarter-note or a dotted quarter-note below.

On motion of Professor Lewis, duly seconded, it was voted that the matter of actual terminology to cover these innovations be referred to the Committee on Terminology, to report next year.

On motion of Mr. Hayden, of Keokuk, Iowa., duly seconded, it was voted that sections "3*c*" and "3*d*" of the "Report of the Committee on Terminology as voted upon and adopted at the Denver meeting, 1909," be referred back to the Committee on Terminology for revision, to be presented next year. The following are the sections referred to:

3*c*) The double-sharp is a character which causes a staff degree to represent a pitch two chromatic half-steps higher.
3*d*) The double-flat is a character which causes a staff degree to represent a pitch two chromatic half-steps lower.

On motion of Miss Finn, of St. Louis, duly seconded, it was voted that the matter of terminology as to use of words "pulse," "beat," "after-beat," and "half-beat" be referred to the Committee on Terminology.

After a rising vote of thanks to the president of the Department of Music Education, the meeting adjourned.

MABEL B. DOWSE, *Acting Secretary*

PAPERS AND DISCUSSIONS

BOSTON, THE CRADLE OF PUBLIC-SCHOOL MUSIC IN AMERICA

CHARLES I. RICE, DIRECTOR OF MUSIC, PUBLIC SCHOOLS, WORCESTER, MASS.

Birthplaces of great men; fields where great issues, national or international, have been settled; the planting-places of great humanitarian influences from whence the good seed has spread and filled the land—all these are shrines which every right-thinking person welcomes an opportunity to visit. It must be, then, with a special anticipation that strangers to the East have journeyed to that particular group of states on the Atlantic seaboard called New England; to the bright and shining member of that group, the old Bay State; and to its capital, Boston.

We are almost in sight of the beginnings at Plymouth and Duxbury;

Salem is a stone's throw to the north; and, in truth, every battlefield of the Revolution is within easier call than the opposite boundaries of several western states. The house of Paul Revere, silversmith and bell-founder, still stands, and the first bell, and the four hundred and ninety-eighth, which was the last one cast at the Revere Foundry, both continue to speak for that doughty midnight rider, on Sundays and patriotic occasions.

But it is to a historical theme of more recent date and one that should be near to the heart of every director of school music, that I call your attention this morning.

Here in Boston in the year 1836, seventy-four years ago, the first attempt to introduce the teaching of music into the public schools was made. Many different influences had been at work in the community, preparing the way for this move.

The Handel and Haydn Society, which is yet very much alive, organized its first Board of Government on April 20, 1815, and at its seventeenth concert, December 25, 1818, gave its first complete performance of an oratorio, *The Messiah*. To it also belongs the credit of the first American performance of the *Creation*, February, 1819, and I hold here a copy of that work published by the Handel and Haydn Society in 1827.

When the time was ripe an institution called the Boston Academy of Music sprang into being, and to this institution in a general way and to three men in particular who were associated in its management, Boston owes its pre-eminence as the birthplace of our public-school music. The name of Lowell Mason at once comes to mind; a few of you have heard of George J. Webb, but I venture to express the belief that not a dozen persons here can name the third man, and as you have lived thus long without this knowledge I am going to defer your enlightenment for a little. Suffice it for the present that the Boston Academy of Music thru its officers and teachers was the agency which united all the tributary musical interests in one grand reservoir, and, loosing their combined power upon the school committee in the shape of memorials and petitions, secured early action.

Let me take you back for a moment to the Boston of 1836. Six years before, it had celebrated by a splendid jubilee the two-hundredth anniversary of its founding in 1630. At the close of these two hundred years the census returns gave its population as 61,392.

Here are a few extracts concerning Boston from a gazetteer of this period published in Philadelphia:

> The finest hotel in the United States, called the Tremont House, contains nearly 200 apartments. . . . . The periodicals of the city are more than 60, including 31 newspapers, 7 of which are daily. The public schools are not equaled in any other city in the world.

Let me say here that any city supporting a periodical for each one thousand population would be exceptional today, and a record of seven daily newspapers for a city of 61,000 is certainly above the average. I quote again:

There are more stage coaches running to and from this city than any other in America. The number of daily arrivals and departures is about 250.

Railroading was as new then as flying is now. The western hemisphere had 841 miles of track, and Boston led the van with 110 miles radiating to Worcester, Providence, and Lowell.

Leaving this brief survey of the Boston of 1836, let us take up the main thread of our theme.

The Boston Academy of Music was founded in 1833 at the suggestion of Mr. William Woodbridge, editor of *Annals of Education*, with the practical aid of Messrs. Lowell Mason and George J. Webb. (That the year is often given as 1832 may be accounted for if we remember that the preliminary steps for an opening in January, 1833, must have been taken in the latter part of the preceding year.)

Mr. Mason had been identified with the musical life of Boston since 1827, and in June, 1834, a little volume of 236 pages called *Manual of the Boston Academy of Music* prepared by him was published by the Academy.

These two men, Mason and Webb, started young people's and children's singing classes, which met with such success that the proposal of public-school instruction in music came as a natural sequence.

It is probable that Lowell Mason had seen the vision of music taught in the schools before the formation of the Boston Academy, and this institution went on record in the preface of the *Manual* I have just spoken of with the expressed hope that music "will, at no distant day, take rank among the branches of common-school education."

I will now give you the name of the man of whom I spoke a few minutes ago. Mr. Samuel A. Eliot, Harvard University, 1817, was president of the Boston Academy of Music during its entire career from 1833–1847. In 1835 Mr. Eliot published in the *North American Review* an article on music, designed to interest the reading public in the history and cultivation of that art, and in 1840 in the same *Review* there appeared a survey by him of the influence and aims of the Boston Academy of Music.

In 1836 a memorial was presented to the School Committee by this institution, urging the propriety of making music a public-school study. Mr. Eliot, who had been a member of the School Committee, enthusiastically supported the proposition and while he was mayor of Boston, and thus chairman ex-officio of the board for the three years 1837, 1838, 1839, you may readily see that the cause of music did not lack an influential champion at a time when strong backing was most needed.

Psalm-books and song-books of various kinds were rapidly published by Messrs. Mason and Webb, and in 1837 Mr. Eliot translated Schiller's "Song of the Bell," adapted to music by Romberg.

Altho this is another story I cannot refrain from noticing that in 1841 the Boston Academy of Music introduced orchestral works into its concerts. The first concert of that year produced Beethoven's *Fifth Symphony*, soon followed by the *First*, and by other classical compositions.

This institution, then, during its brief span of fourteen years, is to be credited with two great achievements: the introduction of music teaching into the Boston schools, and the introduction of a symphony orchestra to a Boston audience. Which of these is its crowning glory depends on the point of view.

The first memorial bore no visible fruit, and in April, 1837, Mr. Mason went to Europe, returning in October of the same year. On the choice of a new board of school committee in 1837 the subject was again brought forward by the Academy, this time reinforced by two petitions signed by "sundry respectable citizens," and the following committee was appointed to examine and report concerning the matter: T. Kemper Davis, Samuel K. Lothrop, and Justin Field.

At a meeting of the Boston School Committee held August 24, 1837, this committee presented its report in a very remarkable and prophetic document which would be useful and convincing under similar circumstances today.

The report begins as follows:

> The committee have given to the subject that attention which its importance required. They have afforded the memorialists a hearing and availed themselves of such means of information as it was in their power to obtain. After mature deliberation and a careful scrutiny of arguments and evidence, the committee are unanimously of opinion that it is expedient to comply with the request of the petitioners.

After testing vocal music by these three standards: "Is it intellectual —is it moral—is it physical?" the report goes on:

> Judged then by this triple standard—intellectually, morally, and physically—vocal music seems to have a natural place in every system of instruction which aspires, as should every system, to develop man's whole nature. . . . . The daily sounding of the consonant and vowel sounds deliberately, distinctly, and by themselves, as the committee have heard them sounded in the musical lessons . . . . would, in their opinion, be as good an exercise as could be imagined. . . . . An alternation is needed in our schools, which without being idleness shall yet give rest. Vocal music seems exactly fitted to afford that alternation. A recreation, yet not a dissipation of the mind—a respite, yet not a relaxation—its office would thus be, to restore the jaded energies, and send back the scholars with invigorated powers to other more laborious duties.

Every objection was impartially considered by this committee, for, says the report: "Nothing in the end is gained by misrepresenting or obscuring an opponent's argument."

Here are some selected statements:

> The ear discriminates sounds as the eye colors. They may both be educated. Early impressions can create an ear for music. It is with learning to sing as with acquiring the pronunciation of a foreign language. Instruction, to be available, must be given while the organs have the flexibility of youth. To learn late in life is, generally, to learn not at all. . . . . As many probably would be found to excel in music, as in arithmetic, writing, or any of the required studies, and no more. All cannot be orators, nor all poets; but shall we not therefore teach the elements of grammar, which orators and poets in common with all others use? It should never be forgotten that the power of understanding and appreciating music may be acquired, where the power of excelling in it is found wanting.

But the most general objection to the introduction of vocal music into our public schools is this. It will, we are told, impair discipline. . . . . "Where music is not, the Devil enters," is a familiar German proverb in regard to schools; and after witnessing the lessons in music . . . . the committee do not hesitate to say that, if any want of discipline follow the introduction of vocal music into a school, the fault must be with the master of that school—it is not with the system. . . . . Now the defect of our present system . . . . is this, that it aims to develop the intellectual part of man's nature solely, when for all the true purposes of life it is of more importance, a hundred fold, to feel rightly, than to think profoundly. . . . . There will be recreation when the toils of the day are ended. What shall that recreation be? . . . . If it [music] enliven prosperity or soothe sorrow, if it quicken the pulse of social happiness, if it can fill the vacancy of an hour that would otherwise be listlessly or unprofitably spent, if it gild with a mild delight the chequered scenes of daily existence, why then limit its benign and blessed influence?

A Mr. Wyse, M.P., who had been agitating the subject of music in England, was quoted:

"The idea of introducing it is not dreamt of. . . . . No effort is made in any of our schools, and then we complain that there is no music among scholars. It would be just as reasonable to exclude grammar, and then complain that we have no grammarians."

With these sentiments your committee heartily concur. Let *us* then show this apathy no longer. Let *us begin*. Prussia may grant instruction to her people as a boon of royal condescension. The people of America demand it as their right. . . . . From this place first went out the great principle, that the property of all should be taxed for the education of all. From this place, also, may the example in this country first go forth, of that education rendered more complete, by the introduction, by public authority, of vocal music into our system of popular instruction. . . . . Rome grew to greatness by adopting whatever she found useful among the nations whom she conquered. The true policy of the American legislator on the subject of education is to gather whatever of good, or bright, or fair can be found from all countries, and all times, and wield the whole for the building-up and adorning of the free institutions of our own country. . . . .

Before closing this report the committee must be pardoned one allusion. They hail it, as a star of good omen to this cause, that the president of the Boston Academy of Music is this year chairman of this board also. May its auspicious influence continue to be shed in both these spheres!

Here, I think, is the place to establish in your minds, the position of this president of the Boston Academy of Music, this mayor of Boston, and chairman of its school board.

You recall how Abraham Mendelssohn, who stood midway between Moses, a great philosopher, and Felix, a great composer, described his own position in life by saying: "Formerly I was the son of my father; now I am the father of my son," and I feel that I can give no more complete and full identification of the Hon. Samuel A. Eliot than by telling you that he was the father of his revered and illustrious son, the president *emeritus* of Harvard University, Charles W. Eliot.

Notwithstanding the convincing nature of the report and the strong popular sentiment in its favor, the school board hesitated to ask an appropriation. Something more was needed, and on his return from Europe in October, 1837, Mr. Mason consented to give instruction gratis for a year in the Hawes School, South Boston. A current publication says: "The

beautiful success of Mr. Mason's experiment dispelled all doubts and removed all hesitation." All obstacles seem to have been overcome, and on August 28, 1838, the final vote was passed, officially indorsing the experiment instituted the year before.

Musical Tract No. 1, published by the Boston Academy of Music, an evangelizing document which contained the full report of the Select Committee and an account of the steps leading to the introduction of school music in Boston, ends thus: "May it speedily be introduced as a branch of school instruction into every town and village in the land."

How well the good seed the fathers sowed has spread, taken root, and filled the land you all know, and I will close this historical sketch by a final quotation from the remarkable report of that remarkable committee of three:

> In its innermost circle, it embraceth a school; in its outermost circumference, it compasseth round a nation.

These were prophetic words. Today we of the National Education Association—the "outermost circumference," gathered here at Boston, the "innermost circle"—are a living testimony of the prophecy fulfilled: "It compasseth round a nation."

THE STUDY OF THE APPRECIATION OF MUSIC IN THE HIGH SCHOOL OF SPRINGFIELD, MASS.

MARY L. REGAL, TEACHER OF MUSIC APPRECIATION AND HARMONY, CENTRAL HIGH SCHOOL, SPRINGFIELD, MASS.

In 1896, during the superintendency of Dr. Thomas M. Balliet, the high school of Springfield, Mass., introduced a course designed to assist the pupils in understanding and enjoying good music, in other words, a course in the appreciation of music. Five years later, at the request of some of the students, the study of harmony was included in the curriculum. Each of these studies has two recitation periods weekly, but music appreciation requires no preparation outside of the classroom, while harmony students must give as much time to the preparation of this subject as of any other, and for this they receive due credit. Either or both may be elected by members of any of the four classes.

The course in harmony was based upon the idea that too much of the teaching of this subject has been done as if the students were likely to become composers and too little attention has been given to those who merely wish an aid in comprehending the works of genius. In our classes emphasis has been laid from the first upon hearing the chords and progressions used. Another point which has been insisted upon and which has proved of interest to the students is finding in the works of the masters examples of the subjects studied.

When the course in the appreciation of music was adopted, no other

high school in the country, so far as I know, had a similar study, so there was no precedent to follow in planning the work. Its introduction was due to the advanced ideas of the supervisor of music, Miss Elizabeth Stearns, and the co-operation of the high-school principal and the superintendent. This course is especially designed for those who have not and never expect to have any technical proficiency. Its purpose is to cultivate such a love and knowledge of music as would enrich the mental and emotional nature just as a love and knowledge of literature or painting or any other of the fine arts does.

The object always in mind is to give the pupils a familiar acquaintance with some of the masterpieces of music. As in other arts, so in music, constant association with the best that has been thought and said and done is the only means of acquiring culture. This modest high-school course is based on the assumption that two periods a week for forty weeks, devoted to careful listening, with occasional needed explanations and plenty of repetitions, will do something toward supplying this association with good music. There is no reason why a student of high-school age should not wander with delight in the paths of the *Unfinished Symphony* as well as in those of the Forest of Arden; be moved as much by the mighty conflict expressed in the Overture to *Tannhäuser* as by the *Last Judgment;* or learn as easily to perceive the exquisite purity of outline of a Haydn quartet as the perfect proportions of the Parthenon; and feel the world lament of the Tschaikowsky Trio as deeply as the sorrow for Adonais.

At the outset it was assumed that the study of the appreciation of music should involve two divisions, one dealing with facts about music, the other with music itself. No hard-and-fast line can be drawn between the divisions. For instance, the component parts of a chord or some rhythmical pattern may not be music when taken alone, but since all music depends for a large part of its effect upon its harmonic basis and its characteristic rhythm, it is impossible to conceive of any intelligent study which should ignore such fundamental elements. A few minutes, therefore, of nearly every recitation are devoted to training the pupils to recognize the most important intervals, chords, progressions, and rhythms. Sometimes they are required to write a motive after it has been played for them one or two or three times. Occasionally they copy an important theme from the blackboard.

A considerable amount of general information about musical matters, much of it having no direct æsthetic bearing, may appropriately claim a place as a part of the stock of knowledge which a well-informed person should have. Elementary musical information is as suitable for general dissemination as the facts of physics, history, or *belles lettres*. The history of music and the biographies of composers are merely incidental in this scheme. When the allowance of time is so small the attention must be centered on the essential thing, which is *music*.

All other things are regarded as subordinate to the study of the masterpieces of music, which constitutes the main part of the course. An unremitting effort is made to teach the pupil to listen, which is not so simple a matter as may be supposed. There is perhaps no better training in concentration of mind than following a complex musical work in all its details from beginning to end. An instant's flagging of the attention and the thread is lost. There is no recovering it as one may recover a lost paragraph by re-reading it. The stream of tone flows steadily on.

The power of active attention is an accomplishment so valuable and so difficult of attainment that no pains should be spared to acquire it. The advantage which the classroom offers in training students to listen may be seen in the opportunity given for repeating parts which are difficult to grasp by reason of complexity of harmony or rhythm. After frequent repetitions, some of them in a slower tempo, perhaps, that the untrained ear may hear more easily, the difficult passage becomes clear and intelligible. Even if no more were achieved than the ability to perceive clearly with the ear, the time would perhaps not be misspent; but when to this is added the comprehension of that intellectual and emotional content in great compositions which makes them works of art, two periods a week can hardly be better employed.

The larger part of the recitation period is spent in listening to musical compositions performed by the teacher. The student's attention is called to essential features, such as structure, key and mode, repetitions, and contrasts. An effort is made to find out what the student has himself perceived and he is encouraged to form his own judgment as to the worth and beauty of what he hears.

In selecting from the vast store of music two points are to be remembered: first, the music must be worth listening to; second, it must give pleasure to the pupils, or the very object of bringing it to their attention will be defeated. It must be remembered that the pupils are young and immature and of varying ability and attainments, and that some things which will appeal to them later in life fall on a deaf ear at the high-school age. Training both of the mind and the ear is necessary for the utmost enjoyment of much of the best music. The full meaning of many a work of art is reserved for riper years. To arouse the pupils to a perception that listening involves some effort on their part and to lead them really to hear is perhaps the most difficult task laid upon the teacher.

As many types of music as possible are selected. Of course only pianoforte music can be adequately rendered on the pianoforte, but much may be done in the way of orchestral and choral works, quartets, and songs. All these types have had a hearing in our classroom. For instance, among the works studied wholly or in part during one representative year (and this means usually several presentations of the same work) were arrangements of the *Fifth Symphony* by Beethoven, the *Symphony in B minor*

by Schubert, the *Fourth Symphony* by Tschaikowsky, the Overture to the *Midsummer Night's Dream* by Mendelssohn, the Overture to *Tannhäuser* by Wagner, and the *Variations* from the *D minor Quartet* by Schubert. Among the pianoforte compositions played were two Preludes and Fugues by Bach, four Beethoven Sonatas, the Carnival, Papillons, and many other numbers by Schumann, besides representative works by Handel, Haydn, Mozart, Weber, Mendelssohn, Chopin, Liszt, Brahms, Tschaikowsky, Grieg, MacDowell, and others.

In the first year a general notion is given of the various kinds of music, the main types of musical form being taken as working outline. This gives sufficient elasticity, admitting any kind of illustrations desired. The second year's work is more specialized, being devoted to piano and song literature.

The students are urged to make known their favorite works, and requests for the performance of certain things are always received with respect and as far as practicable granted. A spontaneous delight in a work of art is a precious thing, to be carefully cherished and nurtured. Occasionally, it must be admitted, admiration for the right work is based upon the wrong reason.

At the beginning of the school year a simple theme is played first, the *Austrian Hymn* by Haydn, the theme of the *B flat Impromptu* by Schubert, or some other theme of similar style. First it is played thru, that the class may notice where its natural divisions occur. This they do without any trouble. Then they are asked to perceive the repetition of any part and anything which is a distinct contrast and to observe the order in which the parts are placed, and their attention is directed to the cadences. Several similar examples are played, then some which vary slightly. Thus a beginning is made of the study of form thru the song-form and its subdivisions of periods. From this we go on to the study of the dance-form, the fugue, the sonata, and the variants of these. The general principles which underlie musical form are looked for and allowance is made for variation from the regular type. If the pupil can be brought to perceive repetition and contrast, rhythm and modulation, he has a sufficient basis to enable him to listen intelligently.

While form is taken as the thread upon which our examples are strung, it is by no means the only quality of music to which attention is called. The "content" of music is, however, so inextricably bound up in its form that there is no considering it apart from its expression. Music can be expressed only by musical means. Sometimes words can suggest its meaning more or less, but the elaborate verbal interpretations by which the unmusical expect the inner meaning of music to be revealed to them have little value. The object of this course is to help pupils to appreciate music *directly*.

The pupils are supplied with notebooks and music paper and keep a record of what is said to them in class and a list of all the compositions played

to them, together with the names of their composers. Two forty-five-minute periods are given to the subject weekly.

The second-year class studies pianoforte works and songs. A large number of important works are performed several times each, and many of the themes are copied by the pupils. The attention of the class is called to the structure and harmony of the works; their beauties are dwelt upon; characteristic features are noted; comparisons are made between different compositions and between different composers; and, most important of all, the works are played often enough to enable the pupils really to know them.

The members of the class are encouraged to express their opinions and ask questions, to tell what they like or do not like, and why, if they can. Now and then I am rewarded by some original criticism which strikes at the root of things, sometimes discouraged by a lack of appreciation of some beauty.

To give further opportunity of hearing the best music adequately rendered a course of concerts under the direction of the high school was established. Three or four concerts, planned to represent as far as possible the different departments of chamber music, were given each year. For instance, the list for one year might comprise a string-quartet concert, a trio concert, a piano recital, and a song recital. The quality of the programs and of their performance may be inferred from the fact that the Kneisel Quartet gave the opening concert each year, while other organizations heard were the Dannreuther Quartet and the Adamowski Trio in addition to such solo performers as Edward MacDowell, Leopold Godowsky, Harold Bauer, Leo Schulz, Gertrude May Stein, Marguerite Hall, Corinne Moore Lawson, Evan Williams, and others. The low price of tickets and a fluctuating attendance made the financial success of each concert a separate problem, altho no money was lost on the course as a whole. After six years the course was suspended, partly because its success had induced other ventures in the same field so that the original need was in some degree met. A few free concerts under the same auspices have been given by some of the local musicians who were sufficiently interested to give their service or accept a merely nominal fee.

The music appreciation classes studied with some thoroness the most important compositions given at the high-school concerts as well as at other noteworthy performances. This feature of our study has remained a valuable feature of the work, but it could be undertaken with more enthusiasm if the attendance of the whole class at the concerts could be insured. This is difficult for various reasons. Another difficulty, not easily overcome, is the great vogue of cheap and vulgar vaudeville performances. As long as they take the time and money of young people week after week, it is hard to train them to a love of what is high and noble in art.

The results of the work attempted in the high school are, from their nature, difficult to estimate. It is easy, of course, to find out whether a student knows the date of Bach's birth or what composers' names are associated with the sonata form or what a suspension is, but just how much he feels the content of the music heard, how much it becomes really a part of him, is something that requires more delicate tests than examination questions. And this is the really valuable part of the result sought.

Every year a few are graduated whose whole attitude toward music seems to have been influenced by these classes, some to a large extent. This leads me to hope that the work is of service in helping to raise the musical understanding and taste of the young, in which lies the main hope of the future of music in this country.

THE AUTOMATIC PLAYER IN SCHOOLS

JOHN G. THOMPSON, PRINCIPAL STATE NORMAL SCHOOL, FITCHBURG, MASS.

Every pupil before he leaves the public schools should become familiar with the works of the great composers. He should learn why these works are great and beautiful and should hear them often enough so that he may come to love them. Similar statements have long been accepted as true when applied to the masterpieces of literature and painting. Poor indeed is the school that does not bring to its pupils the gems of English prose and poetry, and that does not open their eyes and hearts to the beauties of Raphael, Millet, and other great artists.

From almost the beginning, literature has played an important part in education. In the early days its message and its beauty coming from the lips of the story-teller and the bard were received and appreciated by the ear, and many are the recorded criticisms of the foolishness of those who thought to find the soul of a literary masterpiece thru the silent reading of the eye. The refining influence of the study of architecture, sculpture, and painting upon the developing mind has almost never been doubted. Until the last century, however, such study was possible only by travel and therefore was for the wealthy alone. Many a critic has pointed out how impossible it is for a photograph to reproduce the soul of Raphael's "Sistine Madonna" or Millet's "Reapers." Yet today there is hardly an American home without its five-foot shelf of books chiefly for silent reading, and its half-dozen photographic reproductions of great paintings.

Shakespeare wrote his *Merchant of Venice* for the stage. I saw it once, with excellent scenery and splendid costumes, given by Irving and Terry. Probably it has never been presented better. But for many years before that memorable night, I had been reading the *Merchant of Venice*, studying it, loving it, as I shall hope to do for many years to come. I enjoyed it as given by Irving and Terry a thousand times better because of that reading and study. I saw in this city recently an exhibition of the paintings of

Sorolla. I enjoyed and appreciated those paintings with their vivid color and flooding sunshine much more because I had previously studied them as reproduced by the camera.

I would have every high school study the plays of Shakespeare. Were it possible and practicable to have them presented by Irvings and Terrys and Booths and Salvinis, I would not wish them to accept less. That the students should become familiar with them and should understand and appreciate them is however the essential. If a simple reading and study is all that can be had, that is vastly better than ignorance. I would have every pupil in our public schools feel the refining, uplifting influence of great souls and minds, expressing themselves thru sculpture and painting. Could the originals in the great galleries of Europe be brought to every American school I would not ask them to accept less. That the pupil should know and love these expressions of human genius is, however, all-important and we must put them before him in the best available form rather than leave him wholly ignorant.

This is equally true of music. I would as soon see a pupil leave the high school without a knowledge of the plays of Shakespeare and the poetry of Burns as to graduate ignorant of the symphonies of Beethoven and the songs of Schubert. Were it possible and practicable for every high school to have at its command a Boston Symphony Orchestra and a Gadski or a Wülner, I would not wish them to accept less. That their students should be familiar with the works of the great composers, should understand them and love them, however, is the important point. As once with literature and for a much longer time with sculpture and painting, until very recently this has been practically impossible with music. The automatic player which is being so rapidly improved makes it possible, however, today to familiarize public-school pupils with the works of the great masters of music, to make the study of these works a part of their daily living, so to fill their minds and hearts with them that they will be stimulated and inspired to hear them at every possible opportunity and to desire to have them produced in the most perfect manner. As the reading of the *Merchant of Venice* led me to see it presented by Irving and Terry and as the photographs of great paintings have led many a traveler to the galleries of Europe, the knowledge gained by means of the automatic player will lead many an American boy and girl away from the cheap theater to the great pianist, the string quartet, the opera, and the symphony concert.

DISCUSSION

Miss Edith C. Westcott, principal, Western High School, Washington, D.C.—We have used a piano player for the last five years in the Western High School in Washington with very great advantage simply as a recreation, after school. We have a library of very carefully selected rolls. The instrument is open to any student during any recreation period, that is, during the noon intermission or after the close of school, and the last thing I do at night is to turn someone (generally a boy) away from the piano player, about five o'clock in the evening.

You may be tortured with hearing the *Moonlight Sonata* at too fast a tempo, or other of your favorites being crucified, but the time comes, if you let the boy or girl alone and put your feelings aside, when, having gotten rid of all self-consciousness in the use of the instrument, you gently introduce him to the proper tempo, so that he hears the artist perform the number that he has grown familiar with. He begins to standardize the others, so that at the end of five years it is very rare not to hear the instrument very well played. In this school of six hundred I doubt if there are one hundred who do not know from actual experience how to use the piano player.

As to the phonograph, we have guarded most sacredly its use. We have not permitted anyone to manipulate the phonograph except an expert. It is used with classes in the gymnasium to supply the proper musical rhythms. Once in a great while we use it to standardize the singing of a great song. On patriotic occasions we have used the Victrola to lead "The Star Spangled Banner." But our experience has been totally different from that with the piano player.

Mr. George H. Howard, teacher of music, Boston, Mass.—I want to make a suggestion along another line, as the National Education Association is concerned undoubtedly in all forms of education. I heartily approve the use of the player in the schools, but I wish also to express my hearty appreciation of it in education in the home and my belief and conviction in the importance of it in every form of musical education. For the private teacher of music, for the music school or conservatory, I believe it has a particular and vital use. I believe that the automatic player is a convenience and a thing of value in these other directions as well as in the public schools. I rejoice in the grand use that is being made of this and the progress which it indicates in all forms of musical education.

Mr. John B. Shirley, supervisor of music, Troy, N.Y.—I have been delighted with the discussion this morning regarding these instruments, and yet is it not possible that this music is carried too far, just because of the delight and enjoyment that it may bring to those who are listening? Is it not possible that we may neglect to do something else that might be just as important—even more important? We have, of course, a good deal of hard work to do with the children, which is absolutely necessary, and we want to make that grind just as pleasant and enjoyable as possible. Therefore, I think the use of these machines is exceedingly valuable just for that purpose. . . . . But I speak this word of warning because I think there is great danger in the over-use of these instruments.

Edward B. Birge, director of music, Public Schools, Indianapolis, Ind.—I have given a great deal of thought and observation to these mechanical players, especially the player piano, and it is my opinion—and I think it will be the opinion of more people in the near future—that the high school is not the place to begin this work. The place for the player piano is down in the primary schools first and then along in the grammar grades, when the children are more impressionable. Children ought not to be told: "This is a Beethoven Symphony. Now listen to it." They ought to hear music that they do not know anything about and drink it in like the air

Of course, as we have been situated in education, the best we have been able to do is to have the music in the high school in this way; but is it not possible that the time will soon come when the automatic player will be placed where it belongs, so that the children from the time they first come to school will have the advantage of listening to these great works? Their musical education will then cover not four years, but twelve or fourteen years, or even more than that.

Miss Rockwell, New Haven, Conn.—I wish to ask if any of these mechanical players have been introduced into the grammar schools as well as the high school. I also wish to ask of those who have so introduced them if they have experienced any difficulties in persuading their boards of education to purchase these instruments. I fancy that

would be quite a difficulty in some cases and insurmountable in others. How shall we surmount these difficulties if we wish to introduce players into our schools?

MR. BIRGE.—We have about fourteen of these instruments in Indianapolis, all in the lower schools. None were purchased by the board of education. I think that would be impossible. Boards of education regard them as objects of amusement. Entertainments have been given in the various schools and every sort of way of raising money has been resorted to. The children have brought all their old magazines to the schools to sell for old paper.

The probability is that by the end of next year we shall have twenty-four of these instruments. If three or four progressive schools do a certain thing, every other school has to do the same thing.

HARMONY COURSES IN HIGH SCHOOLS

OSBOURNE MCCONATHY, SUPERVISOR OF MUSIC IN PUBLIC SCHOOLS
CHELSEA, MASS.

Those of us who are interested in extending the study of Harmony in the high school will find it necessary to direct our energies along three lines. In the first place, we must undertake an educational campaign among school authorities, school superintendents, and high-school principals in order to show that the study of Harmony rightfully belongs among the high-school subjects, that it meets a well-defined need, and that it may be made to fit naturally into the scheme of high-school instruction. In the second place, we must endeavor so to direct the trend of opinion among teachers of music in the high schools that instruction in Harmony will not be a perfunctory or mechanical process in dealing with written notes, but will be a real training in tone-thinking. In the third place, the relationship between the high-school and college music courses must be more clearly defined, and an understanding established which would give to the high school a better opportunity to enroll in its music courses the students who are preparing for college.

Among the many excellent arguments for the introduction of Harmony courses into our high schools, I should like to mention a few which appeal to me with particular force. In the first place, there is already a strong and general demand for such courses. Wherever they have been started the response has been prompt. Music teachers gladly urge their pupils to take Harmony, and parents of musical taste appreciate the opportunities for higher culture offered by this study.

Three classes of high-school students are interested in the study of Harmony. First, that large group of students, mainly girls, who enter the high school for its cultural influence, without thought of preparing for any special vocation. To them a trained appreciation of the arts is of the greatest value, and the study of Harmony is directly in line with their needs. Second, those students who are preparing for college and who expect to take the college music courses. For these students, Harmony

in the high school not only will be a preparation for college entrance, but will be the means for more rapid progress in the college music courses. Third, those students who are planning a musical career, for whom Harmony is distinctly a professional preparation.

Those of us who have taught classes in Harmony are familiar with a fourth group, namely, the students who think the subject an easy one and who take it in order to avoid work. The sooner such students are enlightened as to the real nature of the study, the better for all concerned.

While I wish to emphasize my conviction that the chief aim of all music instruction in the public schools should be the development of a higher appreciation and enjoyment of good music, and that the study of Harmony, by giving us a clearer insight into the structural nature of music, is directly conducive to this end, these views are not inconsistent with a proper regard for the rights of those looking forward to a professional musical career. Before the introduction of music courses in the high school, these prospective musicians were confronted with a serious problem. They were obliged to add the heavy work of music study to a full high-school course, eliminating practically all chance for recreation or diversion, a certain amount of which is necessary for the proper physical and intellectual development of youth. Most of those who attempted this double work found the task too difficult and became superficial in either their high-school work, or their music study, or both. Many students preferred to give up the high-school course, altho it is a broadening preparation for life-work which no one should be compelled to lose. Others postponed their musical education, the real study of their lives, until they had completed the high-school course, thereby losing the advantage of working in their specialty during the period of their lives most favorable for the building of musical concepts. To the students preparing to become musicians, the high school should offer every opportunity for a well-rounded development, both musically and generally. This is due them not for their sakes alone, altho there is no reason, except that their numbers are fewer, why their specialty should not be included in the high-school course as well as the specialties of other students. It is due them on the higher ground that they are to become molders of public taste, an educational force in the community, and it is the right of the community to expect their influence to be of the best and highest. We are only too well acquainted with many able musicians who, having confined their studies to their specialty, are of limited service to themselves and to their community.

The study of Harmony as a means for mental development ranks in every respect as high as that of the other high-school subjects. For students with musical natures it may be a much more powerful means of awakening a mental response than other subjects where the appeal is not so direct or sympathetic. Moreover, the student who loves music will always keep more or less closely in touch with it, and the powers of appre-

ciation and discrimination developed thru the study of Harmony will be a never-failing source of pleasure thruout his life.

The attitude of the high school toward music study must strongly influence the whole community. Where the high school seriously favors the study of music, a strong impetus is given to the upbuilding of a music-loving community. By including Harmony in its course of study, the high school takes a stand directly with the forces working toward the advancement of culture and refinement in the life of the people.

I wish to say a few words on the subject of methods of teaching Harmony in the high school. High-school classes in Harmony are very different from other groups of students pursuing the study of this subject. In a conservatory of music, for instance, almost all the students look upon the study of Harmony from a vocational viewpoint, as do most classes of students who study Harmony under private teachers. The college class in Harmony consists of students of more mature minds than those in the high school, most of whom are specializing in the subject. The high-school students, on the other hand, are immature, ranging in age from thirteen to eighteen years. Only a few have any intention of making music a profession, very few are ready to specialize along any line, and comparatively few realize or appreciate the purpose and ends of the course. To undertake with these pupils a highly specialized training in technical Harmony would be a great mistake. Neither would it be right to exclude from the class all but the exceptionally gifted students. We cannot pursue such a plan in other subjects, why in music? The thing to do is to welcome all students who love music and wish to know more about it, and to develop and encourage that love and desire thru bringing the students in constant touch with beautiful music and directing their attention to the elements which constitute its beauties. This cannot be accomplished without much serious, technical training, and the training should aim to develop the power to think tones in their correct relationship, and not be a mere juggling of notes according to certain formulas. That this mere mathematical manipulation of notes under the name of Harmony study is still widely prevalent we all know only too well. In a recent work on musical education the author has this to say on the subject:

> Take the study of Harmony. There is hardly anyone who is not sensitive to its effects, yet it would be safe to hazard that not one in a hundred of those who write out the exercises of an average Harmony book is able to make any practical connection between the knowledge and skill he has gained and his musical experience.

In the high school this superficial type of instruction should have no place. In my own school I have used the designation, course in Theoretical Music, rather than Harmony, to separate more clearly the type of instruction we are trying to give from such instruction as I have just described and also from that type of exhaustive study such as is given in conservatories and colleges. Under the heading "theoretical music" may be

included not only a study of intervals, chords, and chord connections, but also theory, ear training, dictation, analysis, melody writing, and other types of music study which aim rather to develop a good taste for music thru an understanding of its technical elements than a specialized training in composition.

I think the type of instruction in Harmony may well follow the lines of the teaching in the Science Department. The science teacher has no expectation of turning out finished scientists. Only a very few of the students who take science expect to become professional geologists, chemists, and so forth. Thru the study of these subjects the teacher aims to develop in his pupils the power to think scientifically and to observe the nature about them in its true relations. Those who intend to enter scientific pursuits must go from the high school to some technical institution to learn their profession. Likewise the high-school music teacher should not aim to graduate finished musicians but should endeavor to develop in his pupils the power to think musically, to hear tones in their correct relationship. His pupils should leave the school better qualified, thru their study of music, to appreciate and understand the music that they meet in after life. Those who intend to take up music as a profession must go to institutions or to teachers who will give them the special training which their calling demands.

A discussion of the relationship between the high-school and college music departments must involve the consideration of two matters which seriously affect the enrollment in the high-school music course and the type of music instruction given in the high school.

The first of these is the general articulation of the high school and college, which affects the whole curriculum of the high school. This relationship between the secondary schools and colleges is at present a subject of wide discussion and acute interest, and in this discussion music must take its part and present its claims for a readjustment of the college-entrance requirements.

It is true, music is included among the subjects with entrance credit in an ever-increasing number of colleges, but with the long list of specified subjects and the meager number of electives, the college-entrance requirements make it difficult for the high-school student to plan a satisfactory course which includes music. In my opinion, the high schools would be better enabled to plan courses in which students preparing for college could take music, if the college-entrance requirements were more liberal in demanding fewer specified subjects and allowing greater freedom in electives.

The second matter for consideration which affects the relations of the high-school and college music courses, is the character of the examinations in music for college entrance. I refer particularly to the questions in music of the College Entrance Examination Board. For instance, the requirement to analyze in detail a given fragment of a pianoforte composition by

one of the masters is a task beyond what should be expected of graduates of a harmony course in the high school. To answer such a question requires considerable experience in applying the higher laws of Harmony and a maturity of judgment which should not be expected in high-school students. To be sure, it may be possible to train high-school pupils in the mechanics of musical analysis until they can do some of this work, but such a process of analysis would indicate rather a mathematical than a musical judgment. I warmly advocate a considerable amount of analytical study of the compositions of the masters, but it should be in the classroom under the guidance of an experienced musician who, at the piano, could show the beauties of the composition while explaining the technical means by which these beauties were effected. A good course along these lines would acquaint the student with the æsthetic purpose of the rules and laws of harmony. Why would it not be practicable for the college to examine the student upon his recognition of chord successions, modulations, cadences, and other evidences of a tonal appreciation which would indicate his preparation to undertake the more formal study of higher technical Harmony? Success in such an examination would evidence as much preparation in music as success in the present examinations, altho differing in kind. By emphasizing the study of tone-thinking in the high school not only is the ultimate progress of the prospective college student not retarded, but, in my opinion, is advanced because based on a more musical foundation. Were the colleges to take this view I believe the high-school music course would enroll a larger number of students who are preparing for college. Perhaps many others, finding on graduating that they had met the college-entrance requirements, would decide to continue their education.

In offering these thoughts on the subject of Harmony in the high school, I have endeavored to consider the duty of the high school toward all its pupils. In my opinion the kind of instruction in theoretical music which I am here advocating is equally serviceable to each of the three classes of students previously described and discussed. To the students who expect to become professional musicians, and to those who intend to continue their instruction thru college, this course provides a broad foundation on which to build their professional or special training, while to the average boy or girl of musical instincts this course offers an ever-stimulating influence to a higher type of musical appreciation and enjoyment.

HIGH SCHOOL ORCHESTRAS

EDWARD B. BIRGE, DIRECTOR OF MUSIC, PUBLIC SCHOOLS, INDIANAPOLIS, IND.

What I shall say about high-school orchestras will be addressed primarily to those who have not as yet ventured into this field, but who would like to do so with a serious purpose of making an orchestra a permanency in the high school. I urge upon all such persons seriousness of

purpose and a determination to succeed, for it is easy to start an orchestra and equally easy to give it up after the first enthusiasm has spent itself. Pupils will take up the idea of an orchestra with zest and spirit as a novelty, just as they will take up any new thing, but they are liable soon to tire of the regular practice and the element of humdrum which enters into success in any undertaking and *ensemble* playing in particular.

However, high-school orchestras in America are well past the experimental stage, there being perhaps a hundred cities and towns where an orchestra is as well-established an institution as the chorus and glee club, and the experience of these cities illustrates clearly the mission of the orchestra. By playing at regular intervals before the assembled students it becomes a unifying element in the school, in much the same way as the other school organizations. Specifically, a good orchestra has the effect of toning up the musical atmosphere, of raising the standard of appreciation of the student body, and of enlarging their musical horizon. Over and above the mere pleasure of listening to *ensemble* performances of instrumental music there is a vast opportunity for art culture along this line which vocal *ensemble* music necessarily cannot give.

And it must be manifest to all that the benefit to the individual players from the orchestral practice is incalculable. As an illustration of the benefit in one direction only—that of playing in time and cultivating a steady beat—it may be safely stated that no instrumentalist who has not had orchestral training knows what strict time really is. This is a strong statement but I wish to let it stand. My experience is, that of the great numbers of capable pianists who apply for membership in the orchestras not one in twenty can be relied upon to play in time with the other players and far less can they play with a sympathetic understanding of their part in the *ensemble*, tho they can play a solo acceptably; and this is more or less true of the players of all instruments. A year's practice with the orchestra makes every one of these young people more truly a musician and a valuable asset to the community along musical lines.

But still another field for orchestral work lies in the chorus and orchestra possibilities of cantatas and oratorios rendered by high-school forces. The trend of the times seems to indicate that during the next ten or fifteen years the most significant development in public-school music will be along these lines. It would be difficult to overestimate the value to the community of establishing the high standards of attainment necessary to such successful achievement thus early in the lives of the young people.

I would like to add parenthetically right here that as a foundation for good chorus work in the high school there must be plenty of good singing in the lower schools. The foundations of their musical taste must be laid there.

Let no one be deterred from starting an orchestra merely because orchestral players are not numerous. "Rome was not built in a day"—the

development of an orchestra is a matter of years of continuous endeavor, and the solving of many problems. It would be sound advice to many a supervisor of music who has developed vocal music as far as he can but who has no orchestra, to obtain the sanction and co-operation of the high-school principal, and then plunge in.

Begin with violins and piano, if no other instruments are in sight, then add flutes, clarionets, cornets, trombones, drums, 'celli, violas, string basses, French horn, etc., as these instruments gradually become available; and whether they do become available will depend very largely upon the success of the director, not only in inspiring enthusiasm and interest, but in his persuasive powers upon individual pupils, inducing them to take up the study of an orchestral instrument. As previously stated, this is a matter of years and not days, but every endeavor rightly directed tells, and success sometimes comes with astonishing swiftness.

A good start is the main thing, followed by a successful appearance before the assembled school. Select at first music well within the technic of the players; one or two good marches, one or two easy overtures, and some easy arrangements of the great composers will make a beginning.

Good orchestra music is very accessible. The Oliver Ditson Company, the John Church Company, Carl Fischer of New York, and other publishers, have immense libraries of orchestral material embracing not only original compositions, but arrangements of every well-known excerpt from the operas, oratorios, simplified arrangements of classical overtures and symphonies, etc., and these arrangements are so made as to sound well with every combination of instruments from violin and piano to full orchestra.

Let me remark in passing the necessity of including only orchestral instruments in your orchestra. The tinkling mandolin and the strumming banjo and guitar must be excluded, good as they are in their place, nor should the rougher band instruments, like the saxophone, be tolerated. If a boy can play the saxophone, get him to learn the clarionet or oboe or bassoon. If there are too many cornets persuade some of them to learn the French horn or trombone. Tempt some large-handed boy violinist to learn the viola, which he can do in a short time owing to its similarity to the violin.

One of the greatest handicaps to developing the wind sections of the orchestra is the expense of the instruments—which in a large number of cases is prohibitive, owing to lack of means on the part of parents, or of interest in such instruments, owing to ignorance of their value in musical training. This situation has been successfully met in several high schools by the school itself purchasing such expensive instruments as clarionets, French horn, trombones, etc., and loaning them to such pupils as will agree to keep them in good condition and practice faithfully upon them. In these cases the parents must be responsible for the care of the instruments and sign a statement to that effect. Let a school begin by buying a trom-

bone or a set of clarionets, with the policy in mind of adding each year one necessary instrument.

I have tried to suggest to your minds the value of high-school orchestras and to urge their further organization in the high schools. In speaking of the cultural value of this work I have said nothing regarding the reciprocal effect upon the director of his labors in this field. Needless to say, it does even more for him than for the pupils—making him study ways and means and musical material and effectually keeping him from settling down into a rut. It will also bring him closer to the community. Let any supervisor who is perfectly content with his work take up orchestra work in the high school—it will keep his hands full and it will do him good.

THE EDUCATIONAL VALUE OF THE FOLK-SONG

CONSTANCE BARLOW-SMITH, IN CHARGE OF DEPARTMENT OF PUBLIC SCHOOL MUSIC METHODS, UNIVERSITY OF ILLINOIS, URBANA, ILL.

Listen carefully to all folk-songs; they are a storehouse of most beautiful melody and unfold to the mind the inner character of the different peoples.—Robert Schumann.

We are told that melody started in *inflectional* language, *rhythm* in barbaric dances. In the combination of the two we have our beginnings of music.

No other agency has been as effective in preserving records of historic value as have the songs of the people, for it has ever been an instinct with the human family to record in song political and social conditions, as well as in religious and pagan practices.

A true folk-melody was inspired by nature, born in a moment, contains the germs of truth and beauty, and has been sung by thousands of people, often with slight alterations, until it has become a composite wild flower (that reflects atmosphere and physical conditions); thus does a folk-melody reflect the spirit of the race which gave it birth. Folk-songs are based upon legends, and have their origin in the emotions of a people.

They are divisible into three groups: Lamentation, Triumphal, and Nature (or Bridal) songs.

The oldest song on record is a Lament, first sung by the Phoenicians as a funeral dirge on the death of Adonis, who represented short-lived youth. Wherever this song exists it is found to be a Lament. The Egyptian version "Return, O, Return! God Panu, Return!" is very dramatic. The musicians of ancient Egypt were compelled to live apart, and the transmission of musical knowledge from father to son was obligatory. For lack of a system of musical notation the world has lost much of the music of the ancients, but it seems reasonable to suppose that fragments of their melodies must be in existence because of this law and others of a similar character. Thus we find that ancient Hebrew melodies are reflected in modern Asiatic music. The "Song of Miriam" belongs to the Triumphal group and was evidently a

well-known folk-song; the "Song of Solomon" is an excellent example of the third, or Bridal, group.

In the synagogical songs of the Jews, in the chants of the Mohammedans, in the music performed by the Buddhists and Brahmins, as well as in the sacred songs of all religious organizations, we find examples of folk-songs of greater or less antiquity. The Nomads have preserved the best specimens of Arabic music—Moslem melodies are to be found in *Oberon* (von Weber's opera), Beethoven's *Ruins of Athens*, Cherubini's *Ali Baba*, Boieldieu's *Caliph of Bagdad*, and many other masterpieces.

Among Chinese folk-songs we find hymns in praise of the dead, and secular tunes of great antiquity.

Von Weber has used one of the latter in an overture to *Turandot*. The omission of the B and E in these melodies proves their longevity. Tradition says that many of them have remained unaltered for hundreds of years.

The chief characteristics of the English folk-songs may be noted in her popular songs of today. "Drink to Me only with Thine Eyes" is one of the oldest and most beautiful. "With My Flocks" (dating from 1580) belongs to the same school as "O Willow, Willow," and other Elizabethan music. "For He's a Jolly Good Fellow," or "We Won't Go Home until Morning" (as it is sung in America) is said to have originated in Palestine. One historian says, "It began in the Holy Land as a song in praise of a French Crusader who lost his life near Jerusalem." The tradition and song are said to exist in Egypt and Arabia at the present day. Beethoven has used it in *The Battle of Vittoria*.

It has always been a practice with writers of operas to introduce favorite songs of the day into their works, perhaps with a view to popularizing them. This has been especially so with the composers of English operas. Under the head of "English Opera" (Vol. I, p. 489) Grove gives a list of forty operas entirely set to current popular airs and produced between 1728 and 1745. The old song-dances, the Morris dance-tunes, and traditional songs of Robin Hood and his band of followers, have been preserved by the peasantry in the rural districts of England where May Day is still celebrated.

The world owes a debt of gratitude to the church musicians of all nations and ages for the preservation of her people's melodies. Over two hundred masses were produced during the fifteenth and sixteenth centuries, the chief theme (or Canto fermo) of each being based upon the same folk-melody thought by some to be the original "Song of Roland."

Hindu folk-songs were adapted to sacred poetry and translated into Hindu by John Parsons in 1861. Marot, a translator of the Psalms, set the first thirty to secular airs in the time of Francis I. A volume of the psalms in Dutch contains no settings other than folk-melodies.

Poland, too, has preserved many melodies of secular origin in her ancient hymns. In the noble old choral and in the student songs of Germany we find types of her beloved Volkslied: "Old Hundredth" and "O

Tannenbaum" ("Maryland, My Maryland!") are examples of each; "The Little Dustman," arranged by Brahms, "How Can I Leave Thee?" and "Must I Then" are melodies that owe their origin to the German Volkslied.

Martin Luther, as well as other great religious reformers, depended upon the people's songs for the success of his work. At the time of the Reformation secular folk-tunes were not only made use of by Luther for the Psalms, but they served as a basis for the more elaborate music, counterpoint. Luther's Bible contains references to the tunes he wished used for the Psalms. "The Handsome Youth" was the tune designated for Psalm IX, "Hunting the Hind" for Psalm XXII, etc.

The old choral, "A Mighty Fortress is Our God," is a folk-melody adapted to sacred words by Luther, and made famous by events of the Reformation. It was called the "War Cry" of the Protestants, and it must have afforded great consolation to the martyrs. This theme alone has been treated by Mendelssohn in the *Reformation Symphony*, and by Wagner in his *Kaiser Marsch* and Meyerbeer in the *Huguenots*. The German Volkslied has inspired the greatest musical works on record. Schubert in his songs, chamber music, and in the *A Flat Major Symphony* proves his estimate of their beauty. Wagner, the faithful historian who has based his great music-dramas upon legends, has used the oldest traditional folk-themes as motives. Handel and Mozart have both used the motive of an old German dirge, one in his "Funeral Anthem for Queen Caroline" and the other in his own "Requiem." Many of the old Irish folk-songs originate in the scales of the ancient bagpipe and Irish harp. The pentatonic mode is found in some of the best. "The Harp that Once Thru Tara's Halls," "The Jolly Plough Boy" (or "The Low Backed Chair"), "The Girl I Left Behind Me," "The Minstrel Boy," "Wearing of the Green," and "The Last Rose of Summer" are all Irish folk-songs with typical melodies and rhythms.

The folk-songs of the Scottish clans exhibit great emotional power. They show traces of early Chinese and Javanese music in the old modes. The chief rhythmic characteristic is a sixteenth note followed by a dotted eighth, known as the "Scotch snap." "Scots, wha hae wi' Wallace bled!" is written in the mode of the fifth (ends on the fifth). Some historians claim it to be the original March of Robert Bruce to Bannockburn in 1314. "John Anderson My Jo" dates very far back in Scottish history. It is in the mode of the second (old church mode called Gregorian first tone). "Loch Lomond" is an old Scotch air in which the seventh note is missing. This fact classes it among those that are written in the old hexachordal or six-noted scale. "The Campbells are Coming" was originally in the pentatonic mode, which proves its longevity. "Auld Lang Syne" is built upon the scale of five tones, which is equivalent to the modern major scale with the fourth and seventh omitted. The first verse was written prior to the

time of Burns. Beethoven has arranged a series of Scotch folk-songs and Mendelssohn has used others in his *Scotch Symphony*. Many composers of note have borrowed inspiration from Scotch folk-music. Folk-song was the universal channel of thought for all nations in ancient times. The dance-songs (processionals) and "ballets" (round dances) anterior to the time of the troubadours and minnesingers, were distinctly folk-songs. Bach and Handel have made use of many old dance-tunes and rhythms in their famous suites. The saga or ballad of the ancients was used as a means of fostering and preserving traditions.

Thru the agencies of strolling musicians of all times, bards, gleemen, minstrels, minnesingers, and meistersingers, it has been possible to encircle the earth with a lyric chain of sympathy, every link of which pulsates with history, and human interest. The Welsh cling to traditions and ancient customs in music as in all things. Their old folk-songs date back to and before the invasion of the Romans. One very beautiful old Welsh folk-tune is sung on every continent. It is now most often sung to the words "All Thru the Night." Frederick Cowan has written a *Welsh Symphony* which is distinctly national in character, as it is founded upon traditional Welsh melodies.

Most of the Scandinavian folk-songs are tinged with melancholy or they express the very extreme of joyful abandonment. Those of Norway show intensity, at times are tragic. The songs of Finland reflect calm, while those of Sweden are plaintive and tender. Their oldest traditional folk-songs are in the modes of the ancients. Sibelius, Grieg, and Gade have introduced many of them in their larger works.

The folk-songs of the Russians are apt to have a characteristic halting rhythm, supposed to indicate fear, because of the difficulty of singing their songs even in seclusion, during the years when they were entirely forbidden. "The Red Sarafan," "The Three in Hand" (or "Troika") and "Little Karen" are typical Russian folk-songs. Beethoven has led in the classic use of Russian melodies. The charming barcarolle "Santa Lucia" that was sung by the Venetian boatman during the St. Louis World's Fair, is an Italian folk-song of melodic and rhythmic beauty. It is sung in honor of the patron saint of Naples. America has already developed two racial types of folk-tunes, namely, Indian and African. MacDowell has used Indian themes in his suites, and Chadwick and Dvorak have used plantation melodies in their symphonies. Hundreds of popular songs are being sung in America today, they are being played upon mechanical instruments and sung in the people's theaters (vaudeville and moving-picture shows). The result of a certain investigation carried on by the writer shows that many of them are very melodious. Are we developing a representative type? Who knows but that some of these so-called popular songs of today may contain the vital germs of truth and beauty that will cause them to live? Perhaps future generations may talk of American folk-songs as typical of a noble race.

The greatest world-musicians have drawn inspiration from folk-melodies. Many examples of idealized and immortalized folk-tunes are to be found in the masterpieces of Bach, Handel, von Weber, Mozart, Beethoven, Schubert, and the great composers of later times.

We have inherited a wealth of folk-music from all nations; it is our privilege and duty to preserve and foster it, so that our legacy to prosperity may be of priceless value.

If the American child can learn the best folk-songs, as nearly as possible in the original forms, he will gain not only sentiment and sympathy but knowledge of people, place, and the elements of musical construction. The famous suites of Bach and Beethoven, so full of folk-melodies, will claim his interest. The symphonies of Beethoven, the greatest of musical works, which contain idealized folk-songs in nearly all of the "Andantes" will inspire him to gain knowledge of thematic development.

As folk-songs have been the fruitful sources of art-inspiration, their educational value is inestimable.

Robert Franz once wrote to Louis C. Elson, who is an authority upon folk-music, "I believe that our modern art began with the lyric forms, and that it will end with them."

Certain it is that the old has become the essence of the new.

SOME OF THE EFFECTS OF MUSIC INSTRUCTION IN PUBLIC SCHOOLS

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As a first word I desire to say that I approach the subject that I am to discuss with that delightful spirit of fairness which one enjoys who reviews a book that he has not read. I have no scheme of instruction to exploit, no system to criticize, no publication to condemn or commend. I need not say that I am not a specialist in music, altho I have always been something of a singer and have done a deal of a very crude sort of chorus-leading. I have, in a way, been in a musical atmosphere about the whole of my life. Strongly susceptible to its appeals, I gladly confess my very great indebtedness to this rare art for large contributions of a kind of pleasure that from my angle of experience has been free from alloy. Moreover, in a long service as a school teacher I have had a good opportunity to study the effects of music instruction and have certain impressions as to what should be accomplished in the way of by-products, to say nothing of the immediate results at which the teacher of the art directly aims. I have been thus personal in my references for the purpose of offering an apology for accepting the invitation of the makers of the program to say a word. While I confess myself a lay intruder into the temple of the divine muse and come with none of the credentials of the priesthood, I may perform in a humble way

the part of the Greek chorus in expressing a sentiment or two entertained by the more musical portion of the public at large.

One of the most difficult of attainment of the results to be realized by the school is the free expressiveness of the pupil. Many a pupil would be barely less able to give some outward manifestation of what goes on in his mind if he were tied and gagged. I am not able to declare them unfettered on the playground because they have not been under exhaustive observation; that they are stiff and formal and unexpressive in the school is conceded. Unhappily this tendency to behavior, or, rather, this absence of behavior, goes forward with them and clings to them as a physical and mental habit thru life. Nothing is more common than to find these repressed and rigid personalities in the normal school where, if incurable, they are as completely out of place as a marble statue in our national game. Often there may be a congenital handicap that makes the free yielding to an impulse almost an act of violence to one's nature. There may be an over self-consciousness to which the school itself may have contributed that explains the clam-like retirement, the cloistral retreat of so many whose limbs move on sharp angles when they move at all. The physical-culture classes of the gymnasium and the dramatic representations of the good reading classes are common prescriptions for the relief of these seemingly case-hardened instances and they are good medicine for those who are thus afflicted. Especially is this true of the former of the two, for one commits himself to nothing in the way of personal attitude toward this or that view of the world when he swings his arms in a set way along with his fellows. The latter is an ideal cure when it may be made to work, but it requires such long and persistent and individual treatment that it is barely practicable in the great majority of cases. Of course the playground, and especially the competitive game, elicit enthusiastic response, for if they do not the player is put upon the retired list in short order, but what we are seeking is voluntary, generous, free co-operation in the relations of ordinary social life.

It is my contention that singing offers one of the most easily available as well as one of the most effective instrumentalities for the development of this most desirable element in the life of the young. Barring an occasional pitch-deaf unfortunate, everyone can sing. Songs have an ascending scale of difficulties that parallel mathematics from twice two to the differential calculus, hence there is a boundless field for the development of the highest art as well as a place for the humblest performer. Singing is one of the social arts and furnishes a rallying-center for the many and its effects are enhanced in proportion to the parts represented and the number participating. It is not peculiar to any people or race and is therefore a universal method of emotional expression. It lends itself thru the employment of language to the celebration of any occasion or event. Nothing else can so quickly unify a multitude as to set them all to the singing of the same song. It furnishes a vehicle for the expression of every aspect of life,

and an art vehicle, too, that is, a method whose employment furnishes delight in the mere using regardless of what it may convey of a specific character. And there is an impersonality about singing that furnishes a cover for the utterance of the deepest emotions of the human heart without committing one to them. One may sing love songs without the suspicion of having surrendered to the supreme passion. One may sing religious songs even tho he may be shy about confessing a faith. There is no other way that compares with it in proud acknowledgment of loyalty to an institution. Who can measure the tremendous influence of the familiar college songs? Who can write the biography of "Dixie" or of "America" or of "John Brown's Body Lies Moldering in the Grave"? These and such as these are the "operas" of the people and they sing them for themselves.

As I have suggested, the appeal is so universal that there are few who are insensible to its fascinations. There is a play element in it that catches the young and the middle-aged and the old and sets them all a-going again and yet they are not ashamed. And so it is that the singing teacher who sees large opportunities in his art will look for the progressive liberation of the tongue-tied and the reticent and the suppressed and the under-emotional and the unsocial and the timid and all the rest of the large brood of those who are solitary in the midst of the world.

There is little space for the discussion of the pedagogical import of my contention. If you wish to deal with one you must do so while he is in action. Get a pupil going in any direction and you have your chance. Get him going with his fellows in an art expression that calls out the happy play of his powers and you have him going in an ideal direction. Do the Delsarte people still talk about devitalizing rigid limbs so that they can get at them with their liberating art? Music is a supreme devitalizer of self-consciousness and formalism and rigidity and all the other blights of free and happy expressiveness.

It may be but another approach to the same thought to urge the importance of having in every educational scheme some element of liberality, some feature from which the ordinary conception of the practical is substantially filtered out. As man cannot live by bread alone, that is an inadequate education which prepares him for nothing but earning bread. I admit the necessity of the practical in our scheme and can only smile at the roundabout way in which it finally got in. The old-fashioned schooling that lay upon the mind as a sort of surplusage, with which one hardly knew what to do when he was compelled to make himself of some use to somebody, found a place to serve in the fulness of time, but when one had so much to learn before he could use it it seemed to have come wrong end first. Now that we are disposed to regard with fine disdain the liberalizing cultures—perhaps I should say the so-called liberalizing cultures, in deference to the contention of Herbert Spencer—it is worth asking whether we may not be running too

far from our old position. As no race can come to much if the fine arts, or one or two of the best of them at least, are not hospitably received by their civilization, so no man will ever be near his possible best in whom the art spirit has been allowed to die for lack of exercise. I assume some sort of art endowment in every normally constituted individual. The very simplest manifestation of playfulness on the part of a child is his certificate of its presence. Beauty is as essential to real living as bread. I admit the superiority of the latter for purely vegetative purposes, but even the good baker makes his bread beautiful as well as nutritive. Our national game of baseball is a sort of protest against the elimination of art from the common life. Now, in art there are two attitudes that are clearly recognizable: the critical or appreciative spirit and the artistic or creative spirit. Music affords an opportunity to enter in a simple way into each of these and thus it becomes the ideal art for the masses. The teacher should have a clear consciousness that it is one of the fine arts with which he is dealing and should therefore cultivate an art-sense, a feeling that one is doing a thing for its own sake and not for an ulterior purpose, and that there are things that are worth doing for their own sake, and for the joy of it and the beauty of it and the play there is in it for the free spirit.

I have an old-fashioned notion that people should have a habit of doing some thinking when they sing. One of the foes of an intellectual life is common routine. He who can maintain a rational existence in the presence of his innumerable habits is a marked man. If the ordinary singer should suddenly be asked about the meaning of what he has just sung, and as to the fitness of the music to express the thought and the sentiment of the song, and as to whether there is any attempt at thought-expression in pitch or rhythm or tempo, and as to the feeling of the pulse of the movement and all the varied elements that make in their fine entirety the real character of the selection, what do you think would be his reply? I have tried the experiment many times with the chapel worshipers at the morning devotions and have had some eye-opening, perhaps I should say ear-opening, revelations. Singing is a method of reading words in addition to all that it contributes in the way of delightful harmonies of sound. Indeed, are not these harmonies employed for the more effective reading of the sentiment of the song? We do not sing the multiplication table altho that was not an unusual exercise in some of the schools of my childhood. The table of the fives made a rollicking sort of a refrain in which all of us could join without let or hindrance and I am not sure that he was not a wise teacher who clothed the unattractive lesson with some element of pleasure. We manage to get along with a very small stock of words in many of our anthems, and possibly the reason for their frequent repetition is found in our determination to let the congregation into the secret of what we are singing about before we are thru with them. But whatever they are they should be studied with much of the same purpose that inspires the elocutionist when he tries several

possible forms of expression upon them before he settles upon a final rendering. And there should be a process of thought-quickening before the beginning of the song if there is any haunting fear that it is needed. As the preacher, if a wise man, will read the hymn as well as his rhetorical powers will permit before asking that it be read the other way and by all in one fine concourse of expression, so in the singing classes of the school the words should be called well to the front of the thought and then they should be sung with the spirit and also with the understanding.

It is my fortune to belong to a city club whose membership is substantially confined to university men. Because of the unity of sentiment regarding matters of import, it is not difficult to gather a group of three or four hundred for a dinner. You know before I tell you what the main feature of the occasion will be. It will not be the speaking; it will be the singing. The songs of student days are among the strongest bonds that hold men fast in their allegiance to the good mother that gave them their disciplines and their memories and sent them out into the world to do something worth while. As the gray-haired boys are twenty again because of the songs they sing, the old idealism is reawakened, the old enthusiasms are rekindled, and into the competing struggle for primacy, into the merciless battle for the richest prize, comes the haunting echo of the old fraternity days. May we not find some way to make the songs of the school in a similar fashion a permanent possession and thus a great contributor to the welfare of the institution that ought to stand close to the heart of the people, as it puts their children on the highway that leads to a fine citizenship in the land we love?

SUCCESS IN PUBLIC-SCHOOL MUSIC

LEONARD B. MARSHALL, ASSISTANT DIRECTOR OF MUSIC IN PUBLIC SCHOOLS, BOSTON, MASS.

The degree of proficiency attained in music in the schools of this country calls for the most glowing optimism in the treatment of my subject. It is safe to say that there is no subject which finds a place in school which is more thoroly enjoyed or in which the pupils, considering the limited amount of time given to it, make more substantial progress than in music.

Every onward movement, every reform, every discovery or invention, every conquest which is intended to better the condition of mankind demands a leader, a promoter, a pioneer; one who has the requisite skill and knowledge to initiate the work and to so foster every endeavor that the thing in view shall at length be achieved. How would the discovery of America ever have been brought about had it not been for the mental reasoning, the faith, the hope, the dauntless courage of Columbus, backed by the liberality and support of the Queen of Spain? When a means of communication was desired which should span the great ocean and connect in

close and instant relation the peoples of two continents, behold, a Morse arises and from out his American studio emanates the scheme which provides the Atlantic cable.

When it was deemed important to discover a means by which messages might be transmitted thru the air and reach in safety a distant point, a Marconi comes forth and gives to the world his wonderful and matchless system. When we would annihilate space and distance in our communication one with another, to whom should we look except to a Bell for the invention of the telephone? When we would take to ourselves wings and fly thru the almost forbidden regions of upper air, we find the men of marvelous invention ready at hand to provide the requisite means of aviation: Zeppelin, Wright, and many others have interested themselves in the solution of this problem.

Is it desired to make a short cut from Europe to Asia and Africa, or to bring into closer communication the Eastern and Western coasts of North America and by so doing to aid the commerce of the whole world, we find a Frenchman, De Lesseps by name, who possesses the engineering skill to give to the world the Suez Canal and the Panama Canal. Do the American people find themselves heavily involved in internecine strife and is there a problem of liberty entering into that conflict and are they looking for a deliverer, an emancipator, that man of wonderful foresight, Abraham Lincoln, looms forth as the light of his time and emancipation is realized. Have we vast areas of arid lands which have proven only waste territory for many years and do we wish to reclaim these lands and make them productive for the good of the people, we have in our midst that man of large brain, of broad sympathies, of rare experience, of indomitable will, of keen insight to develop a grand scheme of irrigation, of storing in vast reservoirs nature's waters. You all know to whom I refer, our ex-president, Theodore Roosevelt.

Fortunate it was that when the time was ripe for the introduction of music into our public schools the cause was championed by a man in every way equipped for the work. In Lowell Mason the people of America had an able advocate for the furtherance of their musical interests. Of good New England lineage, well educated, with strong musical tendencies, with power of command, of excellent teaching ability, having had the advantage of extensive European travel, he was of all men the best fitted to undertake this work. Much of the success of music in our schools is attributable to the grand work which he performed in those early days.

The success in the teaching of music may be viewed from many standpoints.

In the first place I would mention the awakening which comes to the child thru hearing and singing beautiful songs. His young mind becomes interested and his child nature is aroused by the impressions which are made upon him thru his sensibilities. He incidentally also learns much concerning the things in nature. The birds, the plants, the flowers, the animals, the

sun, the moon, the stars; in fact, all the phenomena of the natural world are brought to his attention and very early become a part of his knowledge thru the union of poetry and music. Were the success in music measured by this alone it would be worth the while to put forth the endeavor to secure it. The inspiration, the stimulation, the life, the joy of being surrounded continually by a musical atmosphere brings untold benefits to the pupil in the days of childhood.

Another important thing which contributes to the value of the study of music and which must be counted in summing up the success of the work is the training of the memory. You and I know the delights which are continually ours as we recall the musical gems we learned in our early life.

I was much pleased to read in our daily papers a short time ago an account of what occurred during the visit of ex-President Roosevelt to Holland. It was during a social gathering where the utmost of informality prevailed that he chose to sing for the people assembled a song. It was a simple Dutch lullaby. He learned it as a young lad from his mother's lips. I was strongly impressed with the scene as I pictured it in my mind of this man of letters, of remarkable education, of splendid achievements entertaining those people, the inhabitants of the land from which his ancestors came, by the rendition of this simple strain.

Next to the beauty of music itself and the instilling of its wonderful effects into the minds and hearts of children is the importance of securing the rapid reading of music. We may well count this as one of the great achievements of the past three decades in the schools of our country. The most heroic efforts have been made by the teachers in our schools for the realization of this end. Not only the professional supervisors but the regular teachers also have borne a large part in the furtherance of this work.

I feel that this is the time and this the place to give the most hearty recognition of the valuable assistance which the regular teachers have rendered in the prosecution of the musical work in our schools.

To learn to read music gives us the key which unlocks all the beauties of the works of the great composers. How could one sing intelligently a part-song or a chorus of Mendelssohn, of Haydn, of Mozart, of Beethoven, or any other fine composer, without being able to interpret the things portrayed on the printed page?

While the reading of music is not the principal thing to be attained, still it is the all-important means for giving one a well-rounded idea of music and its correct performance. It has been demonstrated conclusively that children take great pride in reading music at sight after the ability so to do has been acquired.

I do not think that anybody will challenge the statement that the teaching of music has succeeded wonderfully in emphasizing the thoughts contained in literature. The melodic and rhythmic elements in music, with the attendant accentuation, most certainly do enforce the writings

of literary authors. Music considered in this sense is a most valuable adjunct to the training of the pupil.

Another way in which music has been extremely successful lies in the fact, which is recognized by all music teachers and by all educators, that it is a means of inspiring the pupils and interesting them in their school life.

How often does it come into the experience of every interested teacher of music that upon entering the classroom a pleasing smile lights up the face of every child as a manifestation of their pleasure.

As a means of mental discipline and for producing mental concentration the use of music has proven to be of great value.

The imagination is greatly quickened and most favorably acted upon in the pursuit of music.

Not the least to be considered in the study of music is the training of the voice and the best use of the organs of speech. Enunciation and vocalization are thereby promoted. In Tremont Temple for four years past on Memorial Day a chorus of one thousand children from the public schools of Boston has sung patriotic songs at the exercises which have been held there. The features of their singing which have been remarked upon with favor have been the distinctness with which they have enunciated the words, the beautiful tone of voice used, and the spirit and ardor evinced in the rendering of these songs.

In France about ninety years ago a commission was appointed by the government to visit the cities and villages to ascertain what proportion of the people were musical by nature. This commission finally reported that 97 per cent. of the people were thus gifted. As a result music has been assiduously cultivated thruout France during all the years which have succeeded. In the city of Paris more time is allowed for the study of music in the schools than in any other place in the world. The amount of time allotted is from three to ten hours per week. When we consider that in most of the cities and towns in this country only an hour a week is allowed we see only too plainly at what a disadvantage we are placed compared with this most favored city. And yet the cheering intelligence is brought to us by homebound travelers that with the exception of the schools of Paris better sight-reading obtains in the schools of our country than in those of any section of Europe. This is surely very encouraging.

Within the past forty years a great change has come over the teaching of music in our public schools. Instead of rote-singing, with the exception of the work of the kindergarten and the first year of school, note-singing has taken its place. This has proven a revolution and a revelation. The result is intelligence and independence of thought—self-reliance in doing the work in music. The teacher now acts as an instructor, a guide, an illustrator. This change of plan has proven most beneficial; it is counted as one of the chief reasons for the grand success of the present time.

Within the past decade there has been presented to music teachers

something in the way of method in the giving of instruction and of developing music with the young which is very different from what obtained in former years. It is to utilize all the impressions which the child has received from the time of its earliest taking cognizance of things and which form a part of the young child's experience.

The plan is to have the child recall these impressions and gradually to associate them with the printed signs which are used to represent them. This recalling process and the reproduction thru written work form a species of music analysis.

To speak more definitely about it one might say that the method consists in teaching in the most thoro and beautiful manner an attractive song. When this is well known the teacher leads the child to discover the things contained in the song—to recall the various tonal and rhythmical effects and elements; to reproduce the same in writing and so at length to gain a mastery of all the things contained in the song.

This method is in contrast to the singing by note of carefully graded songs and exercises which contain in progressive order the things of music which are desired to be known.

The stage of experimentation has not altogether passed. Undoubtedly a measure of good has accrued by the introduction of this method. It is intended, as I understand it, for use in the early stage of musical development, and is to be succeeded by the more direct, or note-reading process, as soon as the pupils have covered this early stage of their experience and are able to do independent work following the lines of note-reading.

Perhaps it is a little too early to decide upon the full merits of the newer plan and also to know to a certainty just where to draw the line between the newer process and the older.

From what I have observed and from the thought which I have given to it I am inclined to the opinion that eventually a compromise between the two plans will be effected and all that is desirable and worthy in both will form a common basis of instruction.

In some schools where spécial attention is given to music, surprising results have been secured in the recognition of musical phrases—in the reproduction of the same in the staff notation and in leading the pupils to deal with melodic invention. This work not only seems remarkable but it affords genuine pleasure to the pupils. It is thoroly educational and brings into play the genius and individuality of the pupil.

As a result of the progressive study of music thru the different grades the pupils upon arriving at the higher classes in the elementary schools and in the high schools find themselves well trained in the principles of music. They are able to read new music with ease and to maintain four parts in singing. Their ideas of taste, of style in rendering, and of musical expression have been enlarged and brought up to a fine state of musical appreciation.

The success along all these lines has led up to the performance in public of some of the great works of the most eminent composers. To cite some of these, we may mention *The Creation*, *The Messiah*, *Elijah*, and *St. Paul*. In Cincinnati and New York choruses of pupils have assisted in the production of *The Children's Crusade*.

To the study of music in our schools may rightly be ascribed the providing of a vocation for many a child naturally endowed with fine musical gifts. The inspiration, the guidance, the instruction, the practice, and the resulting intelligence awaken and prepare him for further study on the completion of his course in school.

In our little state of Massachusetts, in our good old city of Boston, we would never think of doing without music in our scheme of education.

If Lowell Mason could return to this world and witness the great progress which has been made in his chosen art and enjoy the beautiful songs which the children sing today, and note their attainments, how gratified would he be and how thankful that he had been instrumental in initiating the glorious work.

I am sure that among the many interesting and valuable things taught in our schools at the present time the people thruout our broad land, from ocean to ocean, and from the lakes to the gulf, will accord to music a meed of praise as being among the best things we have to offer our young people.

DISCUSSION

Grant Drake, assistant director of music, Public Schools, Boston, Mass.—When I was asked by our worthy president to lead in the discussion of this subject, "Success in Public School Music," it was with the distinct understanding that I keep to the text, or rather the elucidation of the text, as found in the interesting paper of my esteemed friend and colleague, Mr. Marshall, to whom you have listened with such pleasure.

I am inclined to think he put me in here, expecting that I would say, "Them's my sentiments, too," and then sit down; and in view of the brief time, and the good things to come, I do not know that I could do much better.

I have worked so long and happily with my good brother in this big city of ours, which contains, I assure you, as many varied and difficult problems as can be found anywhere, that it has become second nature for me to applaud his noble sentiments and well-rounded periods. But in spite of this professional intimacy, to say nothing of a friendship which has grown stronger and sweeter each day, I have not yet caught that glowing optimism which radiates from his charming personality, and permeates every line of his interesting paper—that optimism which sees the silver lining in every cloud, which remembers that "behind the clouds the sun is still shining"; a spirit that never recognizes defeat but can see victory in what I might consider a Waterloo.

My good friend can speak from his own experience, when he tells of the "lighting up" of children's faces, when the interested and cheerful supervisor makes his rounds.

I say I have not, as yet, caught that spirit of optimism, and in fact, I am beginning to fear I am immune to that particular microbe, having been so long exposed to it.

I am not, however, of that pessimistic nature which only sees the "hole in the doughnut," but you all know there are two sides to the shield, so perhaps no harm will be done if I concern myself for these few moments with the other side. Being of the cloth, I trust I can do this without striking any discordant note.

Mr. Marshall has spoken of the surprise and gratification of Lowell Mason, were he

to return from that celestial abode where all good musicians, particularly the public-school variety, go, and see the culmination—no, that is not the word—the present success of the work, the foundations of which he laid so well.

I can see the good man's eyes stick out when he listens to and views the automatic piano-players, phonographs, all these music-reproducing machines; when he hears of elaborate courses in harmony, counterpoint, musical analysis, musical appreciation, and the like, laid out, at least on paper, in many of our high schools.

Undoubtedly the style and quality of much of the music we use would prove a revelation to him, the splendid part-singing, the universality of the subject, practically every city, town, and hamlet having its supervisor of music.

Certainly this would look like success. But, in his tour of observation and perusal of courses of study, I wonder if he might not think we were attempting to do many things in our meager hour a week, which are manifestly impossible of fulfillment? I trust, by the way, that he would be duly indignant at that hour a week, which is the one thing that has not expanded since his own day.

Emerson says, "Hitch your wagon to a star," but there is another less classic saying, "Don't crowd the mourners."

It is necessary to have ideals and ambitions, but work, however important, which cannot be done, should not be laid out. It either discourages, or brings your plans into disrepute. Elaborate courses of study do not spell success. Again, I doubt if he would be greatly overwhelmed by our rapid sight-singing, tho way ahead of his day, and, in some cases, of a very high standard.

What is sight-singing? What is your idea or mine? Can the ability to *sol-fa* a little eight, twelve, or sixteen-measure exercise or song be considered indisputable proof of the same? Say what you will, and trot out your finest classes in sight-singing, and we still fall far short of the mark of our high calling.

To my mind orchestral training, or work in some such instrumental form, is a necessary adjunct to this end.

I have had a large and varied experience with singers in general, as has every choir man, and frankly, it is appalling, this inability to comprehend readily the printed page. My brother has mentioned the classics of Beethoven, Mozart, and others. Why, my dear man, I have had many and many a candidate for first-class choir positions, of great vocal promise, who could not interpret the pages of a hymnal. Verily, we are not all readers yet. Mr. Marshall has said, "While the reading of music is not the principal thing to be attained still it is the all-important means for giving one a well-rounded idea of music and its correct performance." Very true. Now, do our scholars readily comprehend the printed page, and with reasonable accuracy, interpret it? If so, we are on the high road to success, for such technique is absolutely essential. Of course our ideas and ideals are constantly changing. The rote-singing of years ago "looked good" to those of that generation. Much on which we pride ourselves today, and call success, may change as greatly in another decade or two. Is success ever attained, or rather are we not always striving for it?

I sometimes fear we confound *talking* about success with the thing itself. They are quite different.

We hear much of the appreciation of music, and I most heartily approve of all that is being done along that line. Anything and everything which brings the best of music and its proper interpretation to our pupils, cannot fail to be an uplift, and help along this success. Much is continually being said of the value of the song element, the cultural side of the work. All true enough, but do say a word in favor of, shall I say, that necessary evil, *good technique*, without which we are helpless. So, in closing, even at the risk of talking platitudes, or mentioning the obvious, may I not emphasize the necessity for good old-fashioned or new-fashioned drill on the essentials of our music work; the various rhythmic and tonal problems which must be drilled and drilled, with the same pertinacity we pursue in number work and the like, if we are to have what I call success in public-school music.

DEPARTMENT OF BUSINESS EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—James S. Curry, High School of Commerce.....Cleveland, Ohio.
Vice-President—Harry C. Spillman, South Division High School.....Milwaukee, Wis.
Secretary—W. N. Clifford, Southern High School.....Philadelphia, Pa.

FIRST SESSION—Tuesday Forenoon, July 5, 1910

The meeting was called to order in the First Baptist Church by President James S. Curry.

Rev. Joseph S. Swain, editor of the *Watchman*, invoked Divine guidance. Mrs. Florence Wilbur sang a solo.

The program was then taken up as arranged.

The President's Address, "The Past, Present, and Future of Commercial Education," was given by James S. Curry, head of Shorthand Department, High School of Commerce, Cleveland, Ohio.

A paper on "How to Make Commercial Courses More Efficient," by Frank E. Lakey, English High School, Boston, Mass., was followed by discussion led by E. E. Gaylord, head of Commercial Department, High School, Beverly, Mass.

Then followed a paper on "The Education and Professional Training of Commercial Teachers," by J. Asbury Pitman, Principal State Normal School, Salem, Mass. Discussion was led by Frank V. Thompson, High School of Commerce, Boston, Mass.

The President appointed as Committee on Resolutions:

Carlos B. Ellis, Springfield, Mass. Marion D. Fulton, New York City, N.Y.
F. H. Read, Providence, R.I.

and as Committee on Nominations:

Frank O. Carpenter, Head, Commercial Department, English High School, Boston, Mass.
A. T. Swift, Providence, R.I.
F. G. Nichols, Albany, N.Y.

An invitation from the Boston City Club to attend a meeting Tuesday, July 5, at 3 P.M. devoted to Vocational Education, was read.

E. E. Gaylord, head of Commercial Department, High School, Beverly, Mass., moved that a committee be appointed to attend the meeting of the Executive Committee and urge the maintenance of this department. The President appointed as such committee:

Durand W. Springer, director of Business Department, Cass High School, Detroit, Mich.
Harry C. Spillman, head of Department of Commerce, South Division High School, Milwaukee, Wis.
Frank E. Lakey, English High School, Boston, Mass.

SECOND SESSION—Thursday Forenoon, July 7, 1910

The meeting was called to order at 9:30 A.M. by President Curry.

The first paper was on "What Business Men Demand of Our Graduates," by Horace G. Healey, High School of Commerce, New York City, N.Y., and the discussion

of the topic was led by W. A. Hawkins, superintendent of Jordan Marsh Co., Boston, Mass.

"Commercial Education as a Branch of Vocational Training" was the subject of a paper by Cheesman A. Herrick, president, Girard College, Philadelphia, Pa., and the discussion was led by Arthur J. Meredith, Director of the Commercial Department State Normal School, Salem, Mass.

The program closed with a paper on "The Attitude of Academic High-School Teachers Toward Students of Commercial Departments" by James M. Green, principal, New Jersey State Normal and Model Schools, Trenton, N.J., the discussion of which was led by Frank O. Carpenter, head, Commercial Department, English High School, Boston, Mass.

THIRD SESSION—FRIDAY FORENOON, July 8, 1910

The meeting was called to order at 9:30 A.M. President Curry introduced Mr. Bates Torrey, a noted teacher and reporter of Boston, as leader of the Round Table.

David H. O'Keefe, New York City High School, New York, N.Y., read a paper on "The History of Touch Typewriting."

Frank O. Carpenter presented the report of the nominating committee, as follows:

For President—Frank E. Lakey, English High School, Boston, Mass.
For Vice-President—Winfield S. McKinney, Englewood High School, Chicago, Ill.
For Secretary—Sherwin W. Cody, Educational Author, Chicago, Ill.

Durand W. Springer of Detroit reported for the Committee which was appointed to go before the Board of Directors to protest against the dropping of the Department of Business Education, that the proposition had been withdrawn.

The report of the Committee on Resolutions was read by Mr. Read, of Providence, R.I., and was accepted with exception of Article 3:

WHEREAS, This department has always been one of the first to take action tending to encourage increased efficiency in the teaching and practice of the commercial branches; and

WHEREAS, We all know that the passage by the New York Legislature fourteen years ago of the Certified Public Accountants' Act did much to bring accountancy to the dignified position it now occupies in the schools and colleges, as well as in the business world and in the public estimation; and

WHEREAS, It has come to the notice of this committee that the New York State Stenographers' Association acting in harmony with the teaching organizations of that state proposes during the coming winter to urge the passage of an act granting to those regarded by the Regents of the University of the State of New York to be worthy, the degree of C.S.R. (Chartered Stenographic Reporter), which act is identical in terms with the original Certified Public Accountants' law, only such changes having been made as were necessary to make it apply to reporters instead of accountants; and

WHEREAS, This bill has met with the approval of all the leading organizations of reporters in America, notably the New York State Stenographers' Association, The Pennsylvania Shorthand Reporters, The Chartered Stenographic Reporters' Association of Canada; and

WHEREAS, This Bill has been so drawn as to conform to the ideas of a committee of the executives of all the Associations in the State of New York interested in the teaching and practice of shorthand, such as The New York State Commercial Teachers' Association, The New York City High School Teachers' Association, Department of Stenography, The Schoolmen's Club of the City of New York, The New York Division of the National Association of Isaac Pitman Shorthand Teachers and Writers, The Stenographers' Union, The American Federation of Labor, and The American Commercial Schools' Institution; be it therefore,

Resolved, That the Department of Business Education of the National Education Association in Convention assembled at Boston this eighth day of July, 1910, most heartily indorses the bill drafted by the New York State Stenographers' Association for adoption by the Legislature at Albany during the coming winter establishing the degree of C.S.R. (Chartered Stenographic Reporter) and placing the same under the control of the Regents of the University of the State of New York; and furthermore be it

Resolved, That this department desires to go on record as of the opinion that the administration of this C.S.R. law by the University of the State of New York will result

in higher standards of efficiency in the teaching and practice of shorthand in the state of New York and ultimately in the whole United States.

WHEREAS, Many college graduates enter active business life and nearly every college graduate requires some knowledge of business practice and theory; and

WHEREAS, Our high schools are now offering good courses in business and the graduates of business courses in the high school would often be encouraged to enter college if the work already done were recognized by college-entrance credits; and

WHEREAS, Commercial efficiency would be increased and a right conception of business as a public service would be more readily inculcated in our youth if commercial courses were given the recognition to which they are justly entitled; therefore be it

Resolved, By the Business Section of the National Education Association, That colleges be and hereby are urged, in the interests both of our boys and girls, and of higher standards of business efficiency and integrity, to grant college-entrance credit to business courses and that the entrance requirements in foreign languages be reduced.

Resolved, That the Business Section of the National Education Association thoroly appreciates the stand already taken by many of the more progressive colleges which have opened their doors to the high-school graduate, regardless of what course he has pursued.

Mr. Butler of Newfoundland made a very vigorous plea for a degree to be granted to those completing a commercial course and desiring to teach. He was informed that many institutions already grant such degrees.

Mr. Dexter asked for concrete illustrations in teaching touch typewriting. He was answered by Edward H. Eldridge, director of School of Secretarial Studies, Simmons College, Boston, Mass.

Durand W. Springer, of Detroit, Mich., read a paper on "Are the Best Results Secured from Formal or Informal Instruction in Book-keeping?"

FREDERICK H. READ, *Acting Secretary*

PAPERS AND DISCUSSIONS

PAST, PRESENT, AND FUTURE OF COMMERCIAL EDUCATION

JAMES S. CURRY, HIGH SCHOOL OF COMMERCE, CLEVELAND, OHIO

Commercial education in the public high school, considered from the viewpoint of an interested public, is first of all the kind of educational training which develops and broadens the intellect. But it does not stop with this important step; it prepares the boy and the girl for immediate usefulness; it prepares them for entry into the avenues of business careers, and it does this with reasonable assurance of success.

Commercial education is supposed to have had its origin in Florence in the fifteenth century. It was at Florence that the earliest known text-books on commercial subjects were written, and it was there that double-entry bookkeeping is supposed to have been given its first practical test in the counting-house. It is interesting to follow the slow development of commercial education from this early period down to the time of the establishing of Dolbear's Commercial College in New York in 1835, probably the first institution in this country devoted exclusively to the teaching of commercial subjects.

From the early advent of the private school to the time of the establishing of commercial courses in high schools, the task of training young people along avocational lines devolved upon the private institutions of learning.

These courses in the private school, altho limited to a brief period of three, six, or nine months, accomplished a great good. They did not, however, successfully fulfill all the requirements of our comprehensive definition of commercial education.

The importance of commercial education in the public schools of this country seems first to have been favorably considered in Boston in the early fifties, at which time many teachers of the Boston public schools familiarized themselves with shorthand and bookkeeping. Soon after shorthand was taught in a limited way in the New York Free Academy. It was made a part of the course of study in Central High School, Philadelphia, and in the St. Louis High School in 1863. The introduction of shorthand into these schools, together with bookkeeping, is supposed to have marked the real beginning of commercial education in public high schools. This proved valuable, and about twenty years ago it began to dawn upon the minds of many progressive business men and liberal-minded educators that a broader line of educational training should be offered to the young people of our nation. Among leading organizations to discuss the subject of commercial education was the American Bankers' Association. This organization went so far as to send a representative to Europe to investigate the educational systems there. It was found that in respect to commercial training, this country was far less progressive than Germany and other European countries. Reports of these investigations were widely circulated in the United States and did much to encourage the introduction of commercial courses into academic high schools.

The commercial department of the academic high school, the commercial high school, and the high school of commerce, are the outgrowth of the country's as well as the student's need. This need became more self-evident to the careful thinker as the result of comparisons made between the wages paid graduates of academic high schools and graduates of commercial departments and private institutions of learning. It is estimated that fully 65 per cent. of the graduates of our high schools seek employment in the business office, some as stenographers, some as bookkeepers, and some behind the counter as clerks. The salaries usually paid the capable office stenographer range from $8.00 to $15.00 per week, while the clerk must be content with the $3.00 to $6.00 per week usually paid.

In 1899 my attention was directed to a certain high school which graduated twenty students from the academic departments and nineteen from the commercial. Fifteen of the former obtained positions as clerks at salaries ranging from $3.00 to $5.00 per week. Eighteen of the commercial graduates obtained positions in business offices as stenographers or bookkeepers at salaries ranging from $7.00 to $12.00 per week, their average weekly salary practically doubling that of the non-commercial students.

This difference in compensation for services rendered is apparent today as in former years, and the relative difference in the earning power of the

two classes of students is the same in all sections of the country. This important fact has played no small part in building up a sentiment favorable to commercial education. It is not surprising that steps toward the advancement of commercial education have been gigantic strides. The commercial course in the public school is now being regarded as important as the academic. Pupils are no longer limited to the slow thinkers, and the tendency is to a full four years' course. Good reasons for this are found in the fact that business men are filling important places in the world, and from the ranks of business men come some of our keenest expansionists. Business men, in addition to all this, are taking an emphatic stand on the educational requirements of people in their employ. No longer will bad spelling, poor penmanship, or incoherent sentences be tolerated. In this age of competitive activity a greater amount of skilled office assistance is demanded. Due to this combination of reasons interest in commercial education has been steadily growing for a number of years until now more than seven hundred high schools of the United States offer a complete or partial course.

Our commercial courses today are as highly cultural and educative as are those offered in academic departments, and they at the same time prepare young men and young women for lives of usefulness in the office or in business, as well as in the home or as a citizen.

The establishment of commercial high schools and high schools of commerce in Boston, New York, Washington, Philadelphia, Pittsburg, Detroit, Cleveland, and other large cities, is an evidence of the growing popularity of commercial education. In some of these cities there is already talk of the advisability of establishing a second and even a third school of this class. This growth, in the face of much opposition, is indicative of what the future holds in store for practical vocational education, both from the standpoint of number of schools and the quality of the work that shall be done.

The future of commercial education depends largely upon the following:

(1) Our standard of efficiency as teachers and the quality of the work we shall do; (2) Practicality of our courses of study; (3) The attitude of educators and Boards of Education; (4) Favorable recognition from higher institutions of learning.

1. I will not dwell upon the necessary educational qualifications of the commercial teacher inasmuch as Professor Pitman will discuss the topic, "Education and Professional Training of Commercial Teachers," covering these essentials.

The teacher whose highest ambition is to draw his salary will seldom reach renown in his chosen profession. He who teaches because of his love for the work and the good he may render to others, will attain the goal he merits. The work of the former is but drudgery; that of the latter, a pleasant occupation.

The teacher of tomorrow must do a little better work than he is able to

do today. Next year's work must be more successful than the last one has been. The teacher must be alert to every need of the work in hand. He must know the subject he is to teach and the mental weakness and strength of every student. He must be acquainted with the demands made upon the employee in the office, either thru the channels of actual office experience or close personal observation, that he may best aid the student in preparing to meet the practical problems before him squarely and successfully. If we would have our students work for higher attainments, we must do a little climbing ourselves. There are too many real students seeking an education to justify the tolerance of shams. It behooves us, therefore, to pause and reflect. If commercial education is to gain the heights toward which it is aimed, we as teachers must serve our purpose well. May it be said of us, "Well done."

2. Every commercial department, commercial high school, or high school of commerce, should provide a full four years' course that should be both educative and practical. The following are some of the subjects that should be offered: English, including business correspondence, legal and commercial forms, debating, extemporaneous speaking, dictation, and spelling, four years (every teacher in the school, even tho outside of the English department, should indirectly be a teacher of English); shorthand and typewriting, two full years to each, or enough time to thoroly qualify the student for the quality and quantity of office work demanded; bookkeeping, including banking and penmanship, at least three years; commercial arithmetic, commercial law, civil government, American history, and history of commerce; languages, French, German, or Spanish, elective; and such other subjects as the conditions of a locality demand.

3. As the result of the establishment of a two or three years' commercial course in some sections, and for a time the prevailing impression that commercial subjects were less difficult to acquire than were academic studies, many of the poorer class of students found their way into commercial departments. It has been said that in some instances less talented students were advised to pursue commercial studies while the more favored ones intellectually were advised against such a course. These, with the too frequent hostile attitude of the academic-high-school teacher toward students of commercial departments, have done much to lower the educational standard and to retard the growth of commercial education. Prominent educators especially favorable to academic training now occupy ground more nearly neutral than formerly—happily, the jealousy that once prevailed seems to be disappearing.

4. Our academic courses of study are practically what the heads of our higher institutions of learning would have them. So far no influence from this quarter has been brought to bear upon the formation of the courses of study in the commercial school. The popular trend toward commercial education in European countries has resulted in the establishment of many

higher institutions of commercial education. As in Europe, so it will be in this country. The colleges will follow the lead of the public commercial school. Already a good beginning has been made. The Wharton School seems to have first entered the field. The University of Chicago and the University of California have each a college of commerce. Other institutions are planning to follow their example. Such schools will undoubtedly be largely patronized and will wield a tremendous influence in promoting the interests, not only of commercial education in the public high school, but of commerce itself. And here again the financial problem is to wield a stimulating influence. Many college graduates who prefer the commercial field to that of the professional, like the graduate of the academic high school, are required to start at the bottom of the financial ladder.

From a rude beginning in Colonial days there has come into being in this country an educational system second to none. We are proud of our universities and colleges, of our normal and professional institutions, of our industrial and technical schools, of our military and naval academies, and we are proud of our great public-school system. Who today questions the need of any one of these educational institutions? Not one, for each in its place has a work to accomplish. To complete our educational system there is a demand for a wider recognition of the importance of commercial education both in the secondary and higher institutions of learning.

Public sentiment when thoroly aroused is almost as irresistible as the ocean tide. Public sentiment seems to say that for the future public commercial schools must be maintained in proportion to their actual need. The commercial high school and the high school of commerce of the future will be the educational institutions for the masses.

HOW TO MAKE COMMERCIAL COURSES MORE EFFICIENT

FRANK E. LAKEY, ENGLISH HIGH SCHOOL, BOSTON, MASS.

To say that commercial courses may be made more efficient is not a confession of weakness, but a frank statement of conditions. When we consider that the high-school population of the country has increased 400 per cent. in the past ten years, and when we know that the major part of the pupils in many of the most prominent high schools take commercial courses, the need of efficiency is evident. One head of the commercial department in a large high school in this city told me that 80 per cent. of the pupils in that school were commercial. May I state at the outset that this paper is a symposium of the views of the heads of the commercial departments of the several high schools in this city, of experienced teachers in other large cities, and of my observations during a period of eleven years as a commercial-high-school teacher? Some statements are self-evident, as that more pay is necessary if we want better teachers. Other state-

ments are, I believe, absolutely true, even tho neither popular nor widely admitted. Among these are:

1. The course should be four years. Providence, R.I., has recently abolished a very popular two-year course. Pittsburg has also extended its commercial course to four years. Business men want helpful clerks with common-sense, maturity, and general information. These traits are not possessed by boys and girls a year out of the grammar school.

2. The classes should be small—not over thirty pupils. I have had eighty-five in one class in penmanship.

3. The day schedule should be from nine to twelve and from one to four o'clock. More time is needed for study, for practice, and for freedom from outside engagements. The dinner hour should not be a quick lunch generator of dyspepsia and nerve trouble. Germany has tried longer hours with excellent results.

Our courses should be planned by men with commercial training. Think of a teacher being obliged to beg for time for penmanship and addition. The majority of our courses are laid out by college-trained men who labor under the restrictions of college-preparatory ideas. Since surely the larger part of all high-school pupils enter later the "college of bread and butter" the injustice is evident. Is not a large part of the 94 per cent. failures of business men due to the lack of real business training for the very real conditions of the business world? A training in business may be given in the high schools which will be as cultural and as respectable as any course. This "preparation for life" is the rational function of a tax-supported high school.

Before entering the high school, emphasis should be put much more strongly than at present on two subjects:

1. *Penmanship.*—From the start only muscular movement should be allowed. The forms used in the seventh and eighth grades and in the high school should be the same—plain, clear, practical, business forms. This means supervision of penmanship in the grades by a competent man.

2. *Arithmetic.*—Pupils should be grounded well in the fundamentals, and be able to add accurately and with some speed.

The high-school program we will consider by subjects. The utmost need exists for better

PENMANSHIP

To secure efficiency I suggest:

1. That no teacher be employed who cannot write a plain business hand on the blackboard.

2. All written work in all subjects must be in a good business hand.

3. Marks in penmanship should be taken from other subjects at indefinite periods.

4. Instruction should cover four years—5—3—2—3 hours.

5. Penmanship should be a diploma subject for all commercial pupils.

We all know the wonderful revolution in the teaching of English within the last fifteen years. The demand for reform is more urgent in penmanship and equally radical improvements can be obtained. Penmanship needs enthusiastic teaching, not incidental notice. It can be applied in making all business vouchers, sales sheets, time sheets, and so forth. If you ask why so much emphasis is placed on penmanship, my answer is: 80 per cent. and more of written applications for positions "in own handwriting" are rejected because of poor penmanship. The use of the typewriter is creating a demand for neatness.

ARITHMETIC

The emphasis first, last, and always must be on accuracy. The study should be intensive in the first year and should cover the fundamental operations, simple fractions and decimals, common tables in general use, estimates, percentage and its applications, interest, and bank discount. Pupils should especially be taught to *prove* their work. Hence the need of a textbook with practical problems, where the subjects little used are omitted. In a four-year course space should be found for algebra and geometry. Since between thirty and forty per cent. leave at the end of the first year, arithmetic and penmanship should be placed in the Freshman year.

BOOKKEEPING

This subject could be made more efficient if the first year were commonly devoted to penmanship and business arithmetic and ten or twelve hours distributed over the three remaining years. I believe that best results are obtained from the study of theory, then business practice, and then more theory without vouchers. The last year should include actual business-office practice. The safeguard system, card ledger, loose-leaf ledger, etc., should be familiar.

A practical and useful device I have found to be the pasting of actual business papers on cardboard for exhibition and reference. The pupils are kept alert and the business world is always glad to help. Thus my pupils have gathered deposit slips, counter checks, voucher checks, cancelled checks, bonding company's blanks, no protest slips, Bradstreet's and Dun's circulars, monthly statements, bills of lading, etc. This list includes dozens more. Talks on business usages and events are extremely valuable. A knowledge of bookkeeping and a good supply of brains usually open the door to managerial positions or to membership in the firm. Bookkeeping some years ago meant only the formal study of the books of record. The pupil learned nothing of outside business. Modern bookkeeping is so different from the old that it would seem at first to be a different study. Business men demand of course, as formerly, a knowledge of formal bookkeeping, but they also demand with an increasing persistence that the boy shall know something of business usages and customs, with which he

daily comes in contact, even if he is a bookkeeper. Therefore all the best teachers of bookkeeping in the country today teach, as an essential part of their bookkeeping courses, the important facts of business daily life.

SHORTHAND

A pupil must pass in Freshman English. Then comes in the third year a three-period study of the theory and in the last year six or eight hours of intensive study. The dictation should be by different teachers and by business men, who are glad to aid occasionally. Good practice is obtained by taking letters of teachers in shorthand and then typewriting them. These approach office conditions. This feature is for the benefit of the pupil and not a marked favor bestowed upon the teacher.

One enthusiastic teacher has formed a shorthand society of seniors and graduates. The results have been

a) Speed is kept up,
b) Problems of business are discussed,
c) Aid is given in securing positions.

Again, an employment bureau avoids dangers for girl graduates and secures

1. Higher grade of work,
2. Schools back reliable pupils,
3. Helps graduates to better-paid positions,
4. Gives work to graduates who are available for part time.

TYPEWRITING

Typewriting, the twin sister of shorthand, should have a separate course for pupils not taking shorthand. Such a course will be offered next fall in Boston schools. This intensive study secures the habit of concentration. Again, the ability to take dictation directly on the machine is very valuable. Of course, all high-grade typists are touch writers. Lessons in shorthand should be written out on the machine in duplicate. At this point it may be well to state that the result of a canvass of over four hundred schools by our energetic president, showed that the average time in over four hundred high schools was two school years of 5.2 periods per week for shorthand and 5.3 periods for typewriting. The large majority of the schools put the subjects chiefly in the second year and in the third year. A similar questionnaire for the other high-school commercial subjects would be valuable.

ENGLISH

The present emphasis on the study of English is proper and just. It needs, however, the addition of practical Business English. The ability to appreciate Addison and Shakespeare by no means includes the ability to write business letters that sell goods, secure positions, and get results. Hence a three-hour course in the third and fourth year devoted to business English is a necessity. The ability to write a clear, neat, well-spelled

business letter or statement about some position is more valuable than the ability to write literary essays. Spelling should be as easy as breathing—drill, drill, drill is the key.

HISTORY

The viewpoint should not be that of great men but the development of great periods of commerce. Every important event in the history of a people has been influenced largely by the commercial aspect. Again pupils should be compelled to study the history of their own country and also the fascinating history of commerce.

LAW

For clear, concise statement, for cultivation of the reasoning faculties, the study of law exceeds the study of geometry. Both boys and girls need to apply themselves. Life is not ideal and real life is found in the cases studied. In the past the whole emphasis has been placed on preparation for college, and on theory. Today the emphasis is rapidly being placed on life, business, and practice. I say this carefully as a college graduate. Among the means to make the study real are:

1. Use of cancelled checks,
2. Bring insurance policies into class. Often the parent does not know the conditions of his policy.
3. Scrap book of clippings,
4. Newspaper clippings discussed,
5. Topical outlines.

COMMERCIAL GEOGRAPHY

This subject seems to be misnamed. Economic geography, or better still, commerce and industry, would be a more exact title. No subject is more fascinating or lends itself more readily to practical applications. Girls lose all its value by resorting to sheer memory work. Among useful methods and devices may be mentioned:

a) Laboratory methods,
b) Collecting by pupils for the museum,
c) Visiting factories and places of business, and making written reports,
d) Use of reflectoscope,
e) Window box to germinate seeds,
f) Photographs,
g) Book clippings, owned by pupil, with comments on opposite page. This teaches observation.
h) Making practical applications of knowledge acquired. Thus, we lose the trade of South America thru lack of direct lines of vessels and knowledge of business methods of our neighbors. This leads us to note the importance of

FOREIGN LANGUAGES

Every commercial pupil should be obliged to take one foreign language and to follow it until he can use it in everyday life as a consul must do. Spanish, German, and French are placed in their commercial value order.

MACHINES

Among the most valuable means of adding efficiency are the knowledge of the use and operation of mechanical aids. Only the more important can be mentioned. Thrice happy is the teacher who has them all. In the bookkeeping class,

Filing devices,
Protectograph,
Card systems,
Letter copying:
  Wet letter press,
  Carbon copies,
  Roller copies—sheets or book,
Numbering machines, paper cutters, eyelet press, etc.

In penmanship,

The use of metronome.

In the shorthand class,

Phonograph and tubes,
Columbia recording graphophone,
Columbia reproducing machine,
Comptometer,
Billing machine,
Neostyle, etc.

Another most valuable kind of aids are talks by business men. It is wonderful how ready these busy men always are to give helpful and suggestive talks. Their criticism of our output would promote efficiency.

One of the strongest illustrations of the value of this suggestion is to be found in the replies received by Mr. F. V. Thompson, head master of the High School of Commerce of this city, and by Mr. Rynearson, director of high schools, of Pittsburg. Both gentlemen sent questions to business houses asking for suggestions for making the course more useful. In Pittsburg, 55 per cent. suggested lectures or talks to pupils by representatives of the various industrial and mercantile houses. Other suggestions were:

1. Discussion of daily newspapers.
2. Faculty visit business houses and observe methods.
3. Teachers have several years of business experience.
4. Get in touch with the Chamber of Commerce.
5. Give pupil a sound foundation, not special training.
6. The development of common-sense and good judgment in all studies is more valuable than all the technical education that can be given young people.
7. The most essential of all requisites—good deportment and personal tidiness.

One way to make commercial courses more efficient is to secure credit on college entrance for commercial subjects. True, not many commercial pupils desire to go to a higher institution, yet every facility should be offered by both high school and college. The western state universities

are today allowing credit for commercial work. The High School Teachers' Association of New York City is seeking for a credit of six units for commercial branches. I strongly believe that the college authorities will see the justice of such a course and grant the credit. Any subject worthy of two years' serious study in a high school deserves credit toward college entrance.

Finally, efficiency is gained by co-operation between graduates and the high school. This may be shown in many ways—by sending suggestions, by sending business vouchers, by giving talks, etc. Ninety per cent. of all high-school pupils for a longer or shorter time are in business. Hence the urgent need for the utmost efficiency. Experience plus training will lead to an independent, successful, honorable business career.

My last word is the caution that our graduates are not full-fledged business men. Technical and trade schools graduate not journeymen, but apprentices. Medical graduates need hospital training. So our pupils need experience and maturity. Some day we may have the half-time system extended to embrace our commercial students. Meanwhile we are coming rapidly into our own. The golden day is near at hand. Our courses are becoming more efficient and so more useful.

DISCUSSION

E. E. Gaylord, High School, Beverly, Mass.—The commercial course is a vocational course, and, to achieve success in the fullest measure, it must have the conditions that make success possible in vocations themselves. Using the factory as an illustration, there must be these five conditions:

1. A practical operating plan, with faith in its efficiency and pride in its relative worth.
2. A modern plant with up-to-date equipment.
3. An intelligent, well-trained operating force.
4. First-class raw material.
5. An available market for the prompt and satisfactory disposal of the product, at good prices.

The commercial course will never be efficient where it is looked down on and treated as a hospital for high-school defectives; where it is referred to apologetically by those in authority; where it is made easier and accorded less time than the other courses; or where the scientific or classical teachers are encouraged or permitted to proselyte freely among the brighter pupils of the younger classes in commercial subjects.

It should be said, promptly, frankly, and gladly, that the course is primarily vocational, and only incidentally cultural, altho, to those inclined to argue, it might readily be shown that the commercial course is almost, if not quite, as truly cultural as others more freely alleged so to be. The course should be made *really* what it is *nominally*. The stream should flow in a channel relatively narrow and deep, rather than broad and shallow. For the purely technical subjects not less time should be provided than the actual number of recitation hours allowed by the best private business school in the vicinity. Briefly, then, there should be a practical plan, or policy, with faith in its efficiency and pride in its relative worth.

I agree with most of what Mr. Lakey has said about the subjects to be included in the course, and particularly regarding penmanship, arithmetic (including rapid calculation drills), and business English. I should add spelling as one of the indispensables.

In the high school at Beverly, Mass., we teach spelling in every year of our five-year course, and are by no means sure of our product even then. Except in our largest city schools, I consider the study of a modern language unessential, especially where the high school is a finishing, as well as a preparatory, school.

In this modern educational factory, besides the usual fundamentals of heat and ventilation, there should be the maximum volume of natural light, for not even in the chemical and physical laboratories is good light more important. In no other course is there so much writing as in the commercial course, and no other school work imposes on the pupil more eye-strain than does the writing and transcribing of shorthand notes.

For efficient work in bookkeeping, there should be flat-topped desks, thirty to thirty-one inches high, twenty-seven inches wide, and not less than forty-two inches long, with at least one bank of drawers. For each desk there should be two movable safety inkwells. Paper, pens, ink, rulers, and all other supplies should be uniform and of good quality. "A workman is known by his tools," and good tools have much to do with the production of good work.

Except in the largest schools, it is hardly feasible to attempt much work in office practice, altho this phase of a well-rounded course is invaluable, when the work can be carried on under proper conditions. Provision may well be made, however, in any high school sustaining a commercial course, for offices very simply equipped to afford practice in wholesaling and banking.

Modern textbooks should be used. In adopting a shorthand system special care should be taken to put in a standard system, so that efficient teachers of the system may be obtained in emergency, and so that pupils may, if necessary, complete quickly in some near-by school the course begun in the high school.

It is a capital error to equip a typewriting department with a few each of all the better-known kinds of typewriters. Such a plan promotes friction among pupils, and very seriously interferes with unity in the teacher's work, which at best is, in this subject, not at all easy. By the way, it may be said that to attempt to teach typewriting without a teacher present in the schoolroom to supervise and direct the practice is little short of foolishness.

Not because of any inherent defect or lack of excellence in the one widely-known double-keyboard machine, but solely in the interest of standardization, it is better to use single-keyboard machines; and for regular work the ideal equipment would contain only one style of typewriter for regular practice, with such single examples of other widely-used machines as would enable the pupils to become somewhat acquainted with the method of operating them. To expect, however, that any normal pupil, in the ordinary school course should be able to operate, at a salable speed, two typewriters so dissimilar as the Smith Premier and the Remington, is to expect the impossible.

I agree with what Mr. Lakey says in other respects regarding the use of modern office devices in the schoolroom.

The teacher makes the school, and our school plant for turning out commercial pupils as a product needs a better-paid, more carefully trained operating force than is now available to supply the tremendous demand. It is of the highest importance that the officials of our state normal schools recognize the need of really first-class commercial departments in their institutions where advanced work in the subject-matter and thoro training in these branches can be obtained. Higher salaries are an important desideratum, but they do not directly add to the supply of properly-trained teachers when there are, as now, almost no professional training schools for commercial teachers.

You cannot take good flour from the mill unless you put good wheat into the hopper. Mr. Lakey does not too strongly emphasize the fundamental importance of thoro work in the grammar grades on what we have always known as "the common branches." Our school "factory" cannot turn out a marketable product unless we have good "raw material."

No factory can pay dividends or command the support of its stockholders unless it can market its product profitably. Close co-operation with local and near-by business men, with the employment departments of the typewriter companies, and with former pupils of the school will tend to create, in time, a feeling of confidence among the undergraduates and their parents that it is worth while to take the commercial course, because when it is creditably completed the graduate does not need a "pull" to "get a job."

In Beverly, pupils in good standing at the mid-year exams are permitted to take, at any time thereafter, positions acceptable to the director of the Commercial Department and to graduate with their class. The theory is that they will learn as much in the office in the interim as if they had stayed in school, and it allows a wider margin of time to place our pupils in the right kind of positions.

M. D. Fulton, New York City, N.Y.—Advertising is the name applied in the business world to publicity schemes. The public are their patrons. It is right, it is good business, it is necessary that our wares are laid before the public.

Schools are dealing in a merchandise—ideas, powers, skill. The public are their patrons. They need to know, they want to know the nature, kind, and methods of distribution of these wares. If there is anything more conspicuous than anything else in the make-up of the speaker upon the topic—Mr. Lakey—it is his concrete illustrations. They are specific and to the point. He has referred to the two-session plan of the German schools, to the aid of penmanship in actual business, and to the use of actual papers.

I wish Mr. William McAndrew, principal of the Washington Irving High School in New York City, were here to speak upon this point himself. Certainly the growth of this system from three hundred to more than three thousand girls within a few years was due in large measure at least to an organized scheme of publicity.

THE EDUCATION AND PROFESSIONAL TRAINING OF COMMERCIAL TEACHERS

J. ASBURY PITMAN, PRINCIPAL OF THE STATE NORMAL SCHOOL, SALEM, MASS.

We are in the midst of a marvelous industrial development. The markets of the world are open to us as never before. There is a steadily increasing demand for men who have been trained to appreciate our industrial and commercial opportunities and to supply, in these particulars, our national needs—men who shall concern themselves with the great questions of production and distribution instead of those who are content to deal merely with the records of the business transactions of others, or to fill other positions of minor importance. Many of our large manufacturers and merchants will be trained in the higher schools of technology, commerce, and business administration, but the public high school, too, must offer, for the benefit of those students who are denied the privileges of the higher institutions and yet who hope to occupy in the world of business positions of large responsibility and who are ambitious to become successful business men, practical vocational courses which are also broad and cultural.

The duties of any business fall naturally into two general divisions: those of initiation and those of administration. The latter, of course, include the routine of office work. Important as this is in bringing to a

successful issue the activities of "the man higher up" in the exercise of initiative and the larger administrative functions, it is not enough, either from the standpoint of the individual or the state, that the commercial department of the secondary school shall limit its field to the training of young men and women for the performance of these duties of office routine with fidelity, intelligence, accuracy, and rapidity. The training for the responsible and unselfish duties of citizenship, which depends upon the education of the heart as well as the education of the head and the hand, must forever constitute an integral part of public-school education; and under no other condition is education of any sort a just charge upon the public treasury. From the standpoint of public support, the object of the course must not be primarily "to make money," but "to make men." The crying need of the world of business, today, is less of self and more of service.

That certain of the commercial subjects possess a distinct disciplinary value has long since ceased to be a debatable question. It is conceded by all that the power of self-control that finds expression in close application and concentration is developed in a high degree by many of the commercial studies, if properly taught. This is an invaluable kind of mental discipline, but the power of initiative and self-direction is greater; and more important still is the ability successfully to meet the vicissitudes of life because of the invaluable possession of a thoro and well-rounded general education.

Certain general conclusions concerning commercial education in the secondary school have been reached and widely accepted. It is agreed that the course shall be not less than four years in length, and that it shall be fully equal in educational value to any other course offered. It is also generally admitted that it is not inconsistent with the idea of industrial efficiency to make the chief end of technical education the development of character, intelligence, and general power. Commercial education must aim to develop intelligent and useful citizens before it trains them to become efficient clerks or accountants. The office boy who possesses the capacity for growth may soon become the employer of the bookkeeper whose training was limited to the technical work in which he is engaged. It is also acknowledged that altho accuracy and rapidity of execution in such subjects as shorthand, typewriting, and bookkeeping are absolutely essential, we should not sacrifice the greater ends of education to secure them. We must train the student to see things in the large and with clear vision—to deal with large interests with originality and with force. To be more specific, commercial courses must deal with problems of production and distribution, with questions of finance and business administration, as well as with the subject-matter and the necessary practice which shall prepare students for the duties of various clerical positions.

Our teachers in this department of the high school must have a thoro education in such fundamental branches as make for culture and general

intelligence and afford a necessary foundation for the technical subjects of the curriculum; they must have a practical, working knowledge of the strictly commercial subjects; and they must have a thoro training in the principles of education, in special methods, and in school and class management.

In no other department of the secondary school is there a more attractive field than that open to teachers of the commercial subjects; and among no other class of educators has the demand for adequate professional training been stronger than among these teachers themselves. The discussion of this question has occupied a large share of the attention of this department for many years. In 1905 the National Education Association adopted this resolution: "We look upon the preparation of teachers of commercial schools and departments as a pressing problem of commercial education, and we commend this question to our higher schools of commerce and university schools of education, to our normal schools, and to further consideration by this body." Similar resolutions have been passed by educational associations and particularly by associations of commercial teachers in all parts of the country. In Massachusetts similar expressions of this need led to the establishment, at the State Normal School at Salem, of a department for the professional training of teachers for this line of work; and colleges, other normal schools, and private schools have also been stimulated to respond to this demand. The dictum of the Committee of Fifteen that "the degree of scholarship required for secondary teachers is by common consent fixed at a collegiate education. That no one—with rare exceptions—should be employed to teach in a high school who has not this fundamental preparation" has been generally accepted. The Committee of Seventeen goes farther and demands definite study of a large group of professional subjects, and opportunity for observation and practice teaching with secondary pupils. Many states now require, as a preparation for teaching in the elementary schools, four years of high-school study and at least two years of professional study in a normal school. For high schools, the four years of college work should be supplemented by professional training, which shall be as thoro and complete as that insisted upon for the elementary teacher. These requirements can be met in full only by an independent professional school or by the department of education in a large university.

Until recently the chief source of supply of commercial teachers has been the private commercial schools. They have received many graduates of colleges and normal schools to whom they have imparted the necessary technical knowledge and skill, but few, if any, of these private schools have suitable facilities for the professional training of teachers. This is not their function. Moreover, altho they do not excessively emphasize the element of drill, it is given at the expense of instruction, and they develop in many of the teachers whom they train a point of view, not to say a spirit, which makes their instruction narrowly technical.

Few of the colleges have given their attention to business education, but should the commercial subjects be introduced into the college curriculum they are likely to be taught by professors whose attitude is naturally and necessarily academic. It is their business to teach subject-matter rather than method. No college course in the commercial branches can properly train teachers unless it is conducted as a branch of a department of education or unless attention is given to special methods of instruction exemplified and practiced in suitable secondary schools. The higher schools of commerce and business administration are training a limited number of men for the more responsible positions in independent high schools of commerce and for the more important places in the commercial departments of large high schools, but a large proportion of these students have secured their pedagogical training elsewhere.

The growing demand for trained teachers of the commercial branches and the limited opportunity for adequate preparation afforded by other educational institutions leaves an attractive field for the normal school. In the East, however, perhaps to a greater extent than in the West, there still exists a prejudice against any attempt to train teachers for any department of the secondary school in these institutions designed primarily for training teachers of the elementary grades. Nor is this attitude wholly traditional. The normal school has its limitations, and it is conscious of them. But the question that is of interest to us is not whether the normal school should undertake to prepare teachers for all departments of the high school but whether it can successfully train teachers for the commercial courses. The normal school cannot claim to be a substitute for the college, but it should be able to offer technical instruction which shall be equal to that of the best private commercial schools, and it has facilities for pedagogical instruction which should command the respect of graduates of colleges; moreover, it may be expected to possess ample facilities for observation and practice; and, in a course of four years, it should find it possible to give a substantial general education.

Whether the course is three or four years in length, no student should be admitted unless he has the full equivalent of a high-school education, nor unless he possesses, in an appreciable degree, some of the essential natural qualifications for teaching. The course may be sufficiently flexible to make it possible to receive students from both commercial and classical courses. Elective courses of one, two, or three years may be offered to meet the needs of graduates of colleges, normal schools, and private commercial schools, and of other advanced students who have had experience in business or in teaching. This liberal provision for the admission of students complicates the question of administration, but it will be the means of attracting to the institution many of its strongest students.

On the side of general education, the training should be as broad and as thoro as time and the claims of technical and professional education

will allow, its aim being to develop all the powers of the individual—physical, intellectual, and moral.

In English the aim of the course should be both cultural and structural. It should aim to give an appreciation of literature from the modern social and economic point of view, and it should give especial attention to modern business literature. The writing of themes setting forth the results of extended study on topics connected with trade and industry should be made a prominent part of the work.

In addition to its cultural value, the aim of the courses in history should be the comprehension of present economic and political conditions as revealed thru a study of their development. There should be a close connection between this and the related subjects of economics and industrial and commercial geography.

Physiography should be made the broad basis for the understanding of commercial geography, and a careful study of the biological sciences and of physics and chemistry in their applications to commercial and industrial operations should acquaint the students with the raw materials of commerce and manufacture and with industrial processes. So far as may be practicable, the laboratories of these courses should be local industrial and commercial establishments. Courses in general and economic geography should follow the work in physiography, and an advanced course in industrial geography, founded on the study of local industries and leading to an intensive study of the resources, markets, and transportation in the United States and to the industrial personality of nations, should be of great value to prospective teachers.

The usual subjects of business technique should be taught in a thoro and comprehensive manner, and the students should be expected to attain as high a degree of skill as if it were their purpose to enter business offices.

All of the technical commercial subjects should be taught with reference to method, and the students should be made familiar with the literature of each.

As an important part of the technical training students should have at least a limited amount of business experience. Many will doubtless have some practical knowledge of the conditions and needs of the business office when they enter the school; others will do well to accept positions as substitutes during the vacations of regular employees or for longer periods before attempting to teach the theories of business practice. In a course of sufficient length it might not be unprofitable for the school to make arrangements with local business houses whereby students might be made acquainted with the atmosphere of the business office and with the common problems of business and the practical methods employed in solving them.

Professional training consists of two clearly defined, but not distinct, lines of work—the science of education and the art of teaching. The

former should include the definite study of physiology, with special attention to personal and school hygiene; educational psychology; the purpose and principles of education, including educational values and general and special methods of teaching; school organization and school management; and the history of education, in which suitable emphasis shall be placed on the evolution of the secondary school. A study of the mere facts of the history of education and the contributions of leading educational reformers is not sufficient, but the course should lead to a comprehensive knowledge of the great educational movements and their relation to social and industrial progress.

A course for training teachers of the commercial branches, or, indeed, of any high-school subject, is incomplete without adequate opportunity for observation and practice in a school of secondary grade, modeled after the schools connected with all successful normal schools engaged in training teachers for the elementary grades. The normal school should have, at least, general supervision over the observation and practice teaching. This should include frequent inspection of the students' work and the consideration of reports made by the regular teachers. Observation in a classroom with a view to assuming charge of the class differs materially from general observation. It will be to the mutual advantage of both student and class if generally practiced before any teaching is permitted. In order to secure the best results, the students should be made responsible for the instruction in a single subject for a considerable period of time. Work with groups of students or with individuals is of unquestionable value, as is also experience in the capacity of a general assistant to the regular teacher. So far as conditions will permit, the teaching should be done under the actual classroom conditions, and the work should be of such a character that it shall be to the distinct advantage of the public or private school with which the normal school is affiliated.

Profitable school work presupposes efficient instruction. It is not enough that the teacher should be an exemplary individual or that he should possess a broad academic education and a thoro knowledge of what he is to teach. He must know how to impart instruction. The commercial course is second to none in importance, and it demands teachers who are the peers of any in culture, breadth of information, technical knowledge and skill, and teaching power.

DISCUSSION

F. V. Thompson, headmaster, High School of Commerce, Boston, Mass.—Mr. Pitman's paper is a sound and practical discussion of a highly important pedagogical problem. The demand for commercial teachers is in excess of the supply. This is a typically American condition, whether it be of battleships, or of vocational schools. Pedagogical ideas crystallize into successful experiments and immediately the whole country is alive and each city wishes to establish a school like that of the other city, ofttimes a commercial rival. Schools are never delayed because there is a lack of trained men. The

pretentious school building goes up with the name cut in stone over the door, whether or not there be trained men to conduct the work. This is the reason why so many good ideas fail. Let us hope that public commercial education will not be developed too far in advance of properly trained teachers.

Just at present we are viewing commercial education like the blind men who are reputed to have examined the elephant. Some claim that business technique or clerical training is the all-important thing. Some pin their faith to shorthand, handwriting, accuracy in figuring, and some emphasize in undue proportion the newer commercial arts, such as salesmanship and advertising. We know that business as conducted today is many-sided and specialized to a high degree. What the emphasis should be, depends upon what department of business you are aiming at. If the boy is going into the competitive side of business he will lose his time studying shorthand. It is likewise futile to give a wholly general commercial training with a smattering of the elements of all the departments of business. This method will turn out a "jack of all trades, and a master of none." Boys and girls should be educated in different schools or, if this is not possible, at least in separate classes. Commercial schools train for the commercial world where still the custom is that the boy goes into the directive and the girl into the directed part of business. The boy shows his best power in the competitive side of business, and the girl excels in the clerical arts.

Show me a high school where the commercial course is largely clerical and I will wager that two or three girls will be found for every boy. On the other hand, in the western schools of commerce, schools of college grade where the work consists mainly in training for the administrative side of business, you will scarcely find a girl. We need principals of commercial schools who recognize the facts, and teachers who are either specialists in one branch or another, or else good general men who can see the proper proportion of subjects. Too many commercial teachers are like the doctor who could cure fits.

In our city high schools of commerce, teachers of varied training are sought. For men to teach economics we must look to the university with its higher school of commerce. For men to teach business technique we have drawn largely upon the business colleges and with much success. For men to teach general subjects, teachers are taken from the elective high schools. A young man in the growing stage makes over very successfully for the vocational commercial school. A high school of commerce in a large city can be organized effectively after the model of a business house, with departments and specialists. All must be harmonized, of course, to suit the business of the school, which, as Mr. Pitman has pointed out, is not only to *train* young people but to *educate* them. We must all stand firm upon the principle that the province of secondary education must not be limited to training for specific skill. Vocational education can be, and must be, as cultural as any other kind of education.

I can cheerfully commend Mr. Pitman's plan for the training of commercial teachers. He is training not specialists, perhaps, but teachers with a proper knowledge of proportion of the different elements of commercial education. He is doing the work for which there is the strongest need, for where there is one high school of commerce, there are hundreds of high schools with commercial courses.

In the special high school of commerce there is a noticeable need of men with economic training. The demand is not at all met by the supply. We are looking to the newer schools of commerce in connection with our universities to fill the pressing need. The European commercial universities have supplied the men to conduct the secondary schools, and the excellence of these latter schools is sufficient proof of the efficacy of the plan.

Finally, I believe that the most important part of the training of commercial teachers comes after actually beginning teaching. Commercial teachers should spend parts of

summers in business houses, should associate with business men, and, in general, should be *en courant* with business thought and with the business world.

CHEESMAN A. HERRICK, president, Girard College, Philadelphia, Pa.—I am pleased to be present and to hear the interesting account given by Principal Pitman of his work at the Salem Normal School. It has also been my privilege to visit Salem and to see the work actually going on. It is my belief that the Salem work is the most interesting and promising of any yet undertaken by any Normal School in this country, looking directly and specifically to the training of commercial teachers. Mr. Thompson has well emphasized the importance of training those who are to give instruction in the commercial schools.

It is a pleasure for me to be present also and to observe the recognition which is given this morning to the work of this department, the report of its Committee of Nine made at Boston seven years ago and later in the discussions of the question of providing commercial teachers. I have followed the meetings of this department for years and I am firm in the opinion that the department has done a good work in the past, and I feel that there is still a work for it to do in the future. I trust that those who are here present will see to it that the Department of Business Education is not abolished or transferred as one of the departments of the National Education Association.

WHAT BUSINESS MEN DEMAND OF GRADUATES OF COMMERCIAL SCHOOLS

HORACE G. HEALEY, HIGH SCHOOL OF COMMERCE, NEW YORK CITY, N.Y.

Business men want young men who are mature, ring true, weigh sixteen ounces to the pound, have had thoro training in the common branches, and possess sufficient knowledge of business customs to constitute a satisfactory foundation upon which to build the superstructure of their own methods. They desire primarily those who know how to transact business, to get it; secondarily, those who know how to record it.

In the two great departments of business—getting it and caring for it—the greatest need is for workers in the former.

To secure information on this line, I wrote personal letters to five leading houses in each of seventy-nine different lines of business, and was fortunate in securing a large percentage of replies. I feel that the purpose of this occasion could be far better served by simply reading these letters, but I shall take advantage of the opportunity to interpolate a few of my own observations.

The articulation between the business school and the business world differs from that of the academic high school and the college in that the shaping must be done from one end. The academic high school has the assistance of the college in arranging its curriculum, but the business school does not have the active co-operation of business men.

The teacher in the business school, if he is in the least sensitive, cannot help feeling discouraged when he comes to know how little his work is understood or appreciated by the business community. It is safe to say that 50 per cent. of those employing our pupils know nothing about our courses. When asked for their opinion as to the essentials of a course of

study in business training schools they will almost invariably confine themselves to the three R's.

Business men want first of all those who are willing to obey orders; second, those who can understand and interpret instructions. If our teaching, no matter what the subject may be, fails in developing these characteristics, we have missed the mark entirely. It is the timber, the stock—the raw material, if you please—that carries the greatest weight with the present-day employer. If this passes muster, the accessories and accomplishments are next considered. The applicant is given a rating, and it is a difficult matter for any employer to overcome the first estimate.

Failures do not come because of lack of qualification in the special branches. Business men are not finding fault because our pupils cannot write shorthand fast enough, or because they do not know how to post a ledger. The difficulty is much nearer home than that. Too many pupils believe that the ability to write one hundred words a minute, or to draw off a trial balance, covers a multitude of deficiencies, personal and educational. It is difficult to make the beginner understand that he is not worth anything at first. He is paid a small wage so that the employer can keep him until he can find out whether he is worth anything or not.

The business world is very charitable toward our product. In fact, they ask more from the home than from the school.

What are the criticisms business men make of our students? The almost universal ones are:

First, the lack of a sense of responsibility.

Second, the lack of a desire to work—pupils having but a single idea, and that being "To get a position." (I have been informed that ninety-nine times out of a hundred the applicant's first question is, "What are the hours?")

Third, the lack of ability to comprehend and follow instructions.

You will see that all come under the personal equation, and that the correction of these shortcomings is or should be the chief function of the school.

Weaknesses in the school and classroom which foster or create these faults, and for which the student must pay dearly when he enters the business world are: over-praise of pupils' work; willingness on the part of the teacher to answer foolish and unnecessary questions; a tendency to make schoolwork too pleasant; minimizing effort and magnifying interest; failure on part of teacher to see that each student does everything required of him at the time and in the manner assigned.

Some observations on our work.—Inasmuch as it is absolutely necessary for the office assistant to serve an apprenticeship, no matter what his school training has been, could not our courses be arranged so that 25 per cent. of the time might be devoted to actual office work? For this the pupil might receive a nominal wage. Beginning at the age of sixteen, his third year in the high school, or his first in the business school, he might devote

one-half of each day to office work, alternating with a student in another class. The law student has his moot court, the theological student his assistant pastorate, the physician and the dentist their clinics. Can and should not the business student, in addition to his seminar, have his office experience in the down-town sky-scraper?

A plan of this kind possesses manifold advantages. It would not only supply that chief of all requirements—actual experience—but it would enable the student to view his work from a broader angle, and bring him into closer and more sympathetic relationship with the school and his instructors.

It may not be practicable, but if it were, it would be a wise plan for school principals to classify their students, putting those who are manifestly qualified for routine work only in one class, and those who have imagination and capacity in another. The sooner we can fit the routine worker to his niche in the business world and get him on the salary-list the better. It is criminal to sidetrack a young man of capacity by making a mere stenographer or bookkeeper of him.

What is needed is an education that will fit the student, not only to make a start, but to readjust himself again and again, if necessary. To this end, the greatest problem is to keep the pupil in school until he is mature. This can be done in many cases by securing the co-operation of the parents, by showing the student that each day's work in school is an investment which will bring big returns from the savings-bank of life, and by giving courses that cannot be completed in a short time.

WHAT OUR CAPTAINS OF INDUSTRY HAVE TO SAY UPON THIS SUBJECT

EXTRACTS FROM LETTERS RECEIVED, EACH ONE REPRESENTING A DIFFERENT LINE OF BUSINESS

From a large wholesale establishment:

The working of every business involves a large amount of technical detail and special machinery, with which newcomers must be thoroly acquainted. In systems, customs, methods, each house probably differs from almost every other. However brilliant a man may be, it will take him some time to grasp any given system; and his short experience necessarily limits him to a very partial knowledge of that system's contingencies. So that for the first months, at least, of his business career, a young man, so far from being an asset to his firm, is invariably much more nearly a loss. His time must be spent in learning. His firm invests in him on the prospect of that learning's future results. But they cannot be expected to pay him from the start, for the privilege of teaching him. The value of a school commercial training is that it helps a man to learn quickly. It gives him some lines of theory to combine with his first practice. But both are equally indispensable.

As regards qualifications necessary for business success, it is, of course, impossible to generalize. Many men succeed thru the predominance of a single trait, in spite of counteracting handicaps. It would be almost a truism to mention rigid honesty, patience, and will, and capacity for genuine hard work. Courteous manners are one of the expressions of education, and in our opinion, modern business life every day demands that the latter shall be increasingly broad.

From an institution employing many thousands:

We expect a young man who is worth $15 a week to his employer to be above all things honest, truthful, and faithful. What he can do is not of so much value as what he is, for the man who *is* something can learn to do what he is told to do. So far as intellectual fitness is concerned, he ought to be a tool polished and prepared for work. In other words, he should have that mental training which fits him to think clearly, to act quickly, and to do what he is told, accurately. Coming down to details, it would not be too much to insist that he knows how to spell correctly, to write legibly, and to read so that he can be understood. These requirements, of course, are primary, but they are most essential, and are often lacking in our so-called educated young men. A young man should be a gentleman, that is, considerate of the feelings and rights of others, and willing to consider himself but one of many. If he thinks he is "it," he is going to have a hard time.

From a large coal company:

I would say right here that we employ no young men as clerks, stenographers, etc., for the reason that we are unable to get young men who are satisfactory. In fact, we find that women are more satisfactory, for the reason that they are more painstaking and industrious about their work. My experience has been that with young men their minds are almost anywhere else than on their business; that they are fairly honest as far as taking anything which does not belong to them, except as regards their employer's time, which they think nothing of wasting.

It is my belief that there is plenty of room for young men with fair educations who can begin in some capacity as stenographers, bookkeepers, or system men at $15 per week and are capable of doing so. The crying need of employers for industrious and honest clerks is such that they can always obtain positions and will get all they can earn. The trouble now is that in most cases they want more than they can earn.

From a large manufacturing establishment:

For a young man's services to be worth $15 per week as a beginner, we should expect him to be neat in appearance, over eighteen years of age, capable of speaking the English language not only correctly, but with a sense of the fitness of words, with a fairly broad vocabulary, to have working knowledge of double-entry bookkeeping and business forms, to be possessed of the conviction that young men's chances today are greater than they ever were, to be ambitious to make his services so valuable to us that he will be almost indispensable; in other words, to become, thru diligence, industry, and reliability, an important integral part of our business unit, and finally to have the true sense that thru him should be reflected the personality of the executive of the company.

The importance of the feeling that he is a part of his employer's business family cannot be too strongly urged. A bright young mind fails of its destiny because of the fear that someone else is getting the benefit of its activity. "Standing in with" the office force, irrespective of the business interests of the employer, is the very common error of a beginner and a most natural one, since he wants to make his surroundings as comfortable as possible, and unconsciously becomes a part of wearing and worn machinery, only to have his own ideas and initiative completely deadened.

As to manners, it is very hard to make a general statement. So long as one is polite, courteous, and considerate, his manners are good, but I have often found that people with intense natures are apt to create false impression as to their manners by reason of their anxieties or ambitions. There are two classes of young men who are at a disadvantage—those who are satisfied with their positions and those who want to own the business in about the second week of their employment; but the man who hits off to attain something in between, and possessing the above attributes which I feel he should have in

order to qualify as a beginner for a position at $15 per week, is as certain of making his mark as earthly affairs can be.

From one of the largest trusts in the world:

Business as conducted today is not run on the system of taking in young men from school and paying fancy salaries while they are being developed. Young men graduating from schools are worth commercially about $6 a week, and any other idea instilled into the young man's mind does him a great injustice, since it brings his first serious defeat and great disappointment in life at the very outset, and oftentimes works to the young man's disadvantage.

From the largest bank in America:

When engaging young men for service in this bank, our aim is to select men who are clearheaded and of good appearance. They must write a legible hand, and be able to add a column of figures correctly. Good manners are essential and, of course, a young man cannot progress very far unless he displays industry and reliability. If he has these qualifications, we could train him into positions that would pay him more than $15 per week.

From a large accounting and auditing firm:

A young man to be successful must be industrious and unless he is a member of the trades union, whose requirements prevent it, he should remember that there is a clock in the morning, and forget that there is one during the day and at its close.

Many young men are taught bookkeeping in the different business schools by certain forms which they do not seem to be able to get away from when they leave school, and if they do not find the same conditions in actual business, they are often at a loss to know how to grasp conditions. I think this is often due to the fact that they are not taught that it is principles which govern in all cases.

From a large building and contracting firm:

I find that many boys are inefficient in arithmetic, probably caused by the methods of teaching at the present time, where the original rudimentary work is admixed with abstract examples too early, and when boys are given examples in business form, they often apply the wrong method to solve the problem.

The correct writing and spelling and the proper subdivision of words are often found deficient in high-school boys, probably caused by their association with the foreign element, but should be inexcusable in young men.

Many boys take the point, that, having spent considerable time in school or college and having passed these requirements, they are superior to the world, and, therefore, do not pay the attention to their work that a country boy would.

It is necessary for any young man, no matter what his training in school may have been, to continue learning when he takes up a position in any business, and as most business now is specialized, it is impossible for you as a teacher to give him every advantage; therefore, a boy must on accepting a position feel that it will depend on his mastery of the ways and means and his individual self, as to his advance.

No one expects a young man to know his master's work before he has spent some time in mastering it, but you can help the boys by bringing to their attention such commercial forms as are used in various business concerns, such as letters, invoices, and departmental notices, contracts, etc., which you can glean from many sources; every manufacturing concern would be glad to give you assistance and copies of their regular forms, which, compiled into a book, would be of eminent value to you as a teacher.

Boys are too prone to shirk work at about the age they leave school, and you, as their

preceptor, should know from the inclination of the pupil what his adaptability is, and, if pushed in that line, he may be developed into a young man of capability.

But you cannot force a butcher to be an engineer; therefore, many boys fail to meet the requirements of efficient service. By industry some of the young men that I have had have become clever experts by appealing to their imagination. Of course, in my business a young man should have industrial integrity, and an appealing instinct toward mechanical as well as business lines. Industry and reliability are really the same, because if industrious and ambitious, reliability will be a natural sequence.

DISCUSSION

W. A. Hawkins, superintendent, Jordan Marsh Co., Boston, Mass.—It is really surprising, when you stop to think of it, how little the business man requires of the school graduate in the way of book learning—so little, in fact, that it does seem as tho every boy and girl ought to leave school thoroly equipped with at least these things.

The child's prayer to the teacher should be: Give us that which will help us to earn our daily bread; and this is the answer to that prayer: Teach the boy to write a good plain hand and to express himself in the English language with precision and brevity; teach him to spell correctly; teach him to do examples in common arithmetic, such as addition, subtraction, extension, discount, and percentage; inculcate honesty, truthfulness, courtesy, accuracy, initiative, persistency, and a love of hard work into that boy, and you have answered his prayer. Teach him these things by all means, if it takes every month and every year of his school life and causes the neglect of everything else. Take the time and neglect the other things, for a boy or girl who enters a business house with this equipment plus average ability will succeed.

But what surprises the business man is the deficiency in these very things that he finds in the boy or girl who comes to him from the schools. The work in the office of the average business house is exceedingly simple and the ordinary forms of arithmetic are about all that are needed; but the trouble, worry, and expense caused the merchant and customer on account of poor work of employees of this sort is hard to estimate. Perhaps there is no one thing that brings us more complaints and causes us more trouble and unnecessary expense than the poor writing of our salespeople.

For example, we have many hundreds of salespeople in our store, and on account of the poor writing of many of them, our charge customers are constantly complaining of merchandise charged them of which they know nothing; and then the trouble and expense for us begins.

Now let us take requirement number two, which is that the graduate shall be able to express himself with precision and brevity in the English language. If you only knew how often the long-drawn-out letter applying for work finds its way to the waste-basket, because the business man thinks that if it takes that boy as long to do everything else as it does to write for a job, he doesn't want him!

There are men and women in the employ of every business house that the business man hates to see coming toward him, and that going about his place of business he avoids meeting, for fear ten minutes of his time will be taken, listening to some bit of information that it ought not to take more than ten seconds to give. Don't you see what a handicap that must be to even a man or a woman of ability?

Upon bad spelling I shall not dwell long. Like the poor, "we always have it with us." You don't need to ask the business man to learn the necessity of more attention to this study.

The principal of a well-known seminary told me only a few days ago about a college girl who persisted in spelling "professor" with two "f's."

Now let us pass on to that immensely important study, arithmetic. Remember what I said, that the work in the office of the average business house is exceedingly simple,

and that the ordinary forms of arithmetic are all that are needed. But how lacking in even this many boys and girls are, perhaps only the business man knows.

Our head cashier, a woman who has been with us many years and who is accountable for all the money that is taken over our counters, and under whose authority are the many cashiers in our employ, tells me that the girls we hire today are not nearly as well grounded in arithmetic as those we used to hire ten years ago. Why is it? I don't believe it is the teachers' fault. I am inclined to believe that the fault lies with the system, with those who have the selection of the studies that must be taken up by the pupil, and that the time of the boy and girl is taken up with the less essential studies at the expense of the *absolutely essential*.

We have a salesmanship school in our store, to which we send our own salespeople each day. One study to which we have to give much attention is arithmetic. Seems too bad that we should have to do this, doesn't it? At the class graduation a few days ago, I asked several young women who were grammar-school graduates what studies they felt they had not been given enough instruction in, in the public schools, and the unanimous opinion concerned the very studies I have been talking about. One girl said she thought the schools should teach the care of the health. I believe that is the first thing that ought to be taught in the school. That is one of the things our saleswomen are taught, by a professional nurse.

Teach a boy that an act of dishonesty will dog his footsteps all thru life. Teach him that courtesy is the little golden key that will open the great heavy door of opportunity. Teach him the value of accuracy in everything that he does. Teach him that persistency will get him a job and that hard work will hold it. Once again I say, teach him these things, and you have helped him to earn his daily bread, and to lead a useful, honorable life.

Now I am going to make a suggestion and then stop, lest you accuse me of lacking that precision and brevity about which I have been preaching.

When you go to your homes, I don't care in how small a village or how large a town you may live, use your strongest influence to have formed an advisory board, made up of live business men of your own community, not "old fogies," mind you, but men of affairs, that your boys and girls will look up to. Have them talk to your scholars the first and last days of every term. Get together with them and your school committee once each month, and try to give your boys and girls what they need, and all they need of it when they go out into the world to make their own living.

Some may say, "What does the average business man know about education?" I tell you, he knows a whole lot about the bread-and-butter kind, and that is what we are talking about today. To know how successful this business men's advisory board can be, I need only to refer you to the Boston High School of Commerce, where it has been in vogue for some time. But why not in every school? For every school is or should be a school of commerce.

In closing, I'll tell you of those who can help you solve this problem perhaps better than the business man or anybody else: the graduates of your schools who have gone out into the business world. I would suggest that you select fifty or a hundred boys and girls who left your schools two or three years ago, and write asking them earnestly to tell you frankly how you may have erred as teachers, the important studies upon which you did not dwell long enough, and the less necessary which you would better have sacrificed for the good of the absolutely necessary.

We invite the boys and girls in our employ to make suggestions whereby we can improve our business, and for all suggestions accepted, we pay a premium.

We find the idea successful in business; you might find it so in education.

COMMERCIAL EDUCATION AS A BRANCH OF VOCATIONAL TRAINING

CHEESMAN A. HERRICK, PRESIDENT OF GIRARD COLLEGE, PHILADELPHIA, PA.

The recent unprecedented interest in industrial education threatens to cast commercial education into the background or to eclipse it altogether. Commissions report and societies conduct their deliberations as tho training for industry included all the vocational education which it is necessary to offer. Some may be quite conscious of the significance of what they say. Thus, a few years ago, I remember to have heard one prominently connected with a state university suggest that the best higher commercial education is an engineering education, with what was termed a "commercial finish." Similarly many manual-training schools seek to do away with the necessity for separate commercial schools and courses by introducing commercial branches into their own scheme of studies. And again, those at present most active in the attempt to readapt the elementary school seem to make industrial education include training for both agriculture and commercial life. Then there are those who hold that individual welfare and national policy will be best promoted by training people to produce, and that selling or exchanging will come naturally without special forms of education. This opinion I have heard expressed in the statement that if goods are produced good enough and cheap enough they will sell themselves.

But I take it that the recent trend of our educational discussion with an ignoring of the commercial element is in the main unconscious, and that it results from the enthusiasm with which a new idea is taken up. Certain it is that just now there is the need of stating anew the place and meaning of commercial education, both as a part of our system of general education, and as a separate branch of instruction.

Specialized forms of training in such a country as ours should be along three lines, or to prepare for three branches of work, namely: agriculture, industry, and commerce. For all three I would make the statement that they should have recognition as parts of our general education and in separate schools. But I want more particularly to make the claim for commercial education.

In the first place it should be noted that there are more than two million persons in this country of ours employed in the specialized forms of commercial activity, in addition to which several million more are in occupations which are in a large part commercial, and practically the whole population must engage in commercial activities to a considerable extent. It ought not to require more than a statement to win assent to the proposition that these millions who are in callings wholly or very largely commercial are entitled to an education equipment which will result in their understanding their work and doing it efficiently. I regard it as a

matter of public welfare that the function and the opportunity of the business man should have due recognition in our education. Business needs a new standard of commercial ethics and new ideals of success. We should make clear by our training that the business man should have a vastly higher mission in his business than making money, and that the commercial callings when properly understood and rightly followed are just as truly a means of serving humanity as are the other occupations into which men may go. Business will be less sordid when such ideals as these are implanted in those engaged in it, and these ideals can be given only thru schools which are specialized and professional. The influence of professional commercial schools is much wider than upon those who attend them, for their standards and ideals will reach to other schools.

To a considerable extent the lives and activities of all classes are commercial. The expenditure of an income so that a surplus may be secured and the wise investment of such a surplus; the supervision over a personal or family exchequer so as not to be bankrupt; the vision of the more remote future so that there may be a proper balance of present necessity and future need—these and many other personal considerations are such as to demand that individuals be trained along commercial lines if they are to live successful and useful lives. It is of great importance to those who are in business and of tremendous social significance that business men be inducted into and made satisfied with their callings. Business men should be trained to understand this economic era in which they are to live and work, and of which they should be a vital part. A business man should not go into his calling feeling that it is of low order, and that he would rather have done something else. In the years that I had the direction of training young men for commercial lives the moment of supremest satisfaction was in the brief testimony of a merchant of large experience who served on the Second Mosely Commission. He had asked a group of boys who had been nearly four years in the school and were about ready to go out why they chose the particular school course they did, and why they looked forward to business as an occupation. The answers of these young recruits just going into action, to the veteran of long experience, were so clear-cut and definite, and they evidenced such ideals that the man of experience was deeply affected, and with suffused voice he said, "I find here many things over which I rejoice, but most of all, I rejoice at the state of mind which these young men have toward their future commercial callings." This state of mind was the result of their education. In a word, if we are to have high ideals in commercial life and ennoble business, we must teach business as a worthy and liberal calling, and such a teaching can best be given in commercial schools and courses.

Commercial training as a branch of vocational education presents a comprehensive topic for discussion in a brief paper. According to my thinking, an important phase of this topic is the better adaptation of edu-

cation in general to the needs of the present. In a much larger measure than it now is all education should become commercial education. This is simply in recognition of the fact that education is to take into account the character of the age, and to train those being educated worthily to meet the demands which the age places upon them. The heritage of our educational tradition gives a sort of sacred place to the humanities, and the practical affairs of the work-a-day world are too little recognized in our general education. I would have these practical affairs surrounded with the influence of culture, and so organized and presented that they may become the instruments of disciplinary education. If so, our general education will be strengthened, and in addition an incalculable service will be rendered to those who are to do practical work and to society in general. Thus all our education should be *vocational*, and in all our education, whether general or special, the commercial element should have recognition, for all classes, whether in the liberal professions, agriculture, industry, or other calling, must to a degree be engaged in business. The housewife, for example, has constantly important duties of account-keeping, making of purchases, division and husbanding of income—all of which are commercial, and upon her discharge of these duties will depend in large measure the felicity of the home. May we not say of education in general that it has had its face turned too much to the past, and too largely it has reflected inherited tradition? To the conventional reading, writing, and arithmetic, which may be termed the tests of literacy, of knowledge, there should be added the modern test of efficiency, the capacity to do work. The question now is, not *what knowledge is of most worth?* but *what skill has one for doing the work which the world asks of him?* In other words, the times demand that knowledge must be translated into action. And in meeting the demands which such a standard sets, the commercial element should have a much larger place than it has yet been accorded in our general education.

Now let us pass to a brief consideration of the specialized forms of education for business. Within recent years, both the needs and the opportunity for such specialized instruction have increased, and at present the forms of commercial schools and teaching which should exist are both numerous and diverse. First, I am coming to feel that the upper years of our grammar schools should recognize commercial education, not only as suggested in the last paragraph, i.e., as a part of general education, but also in the use of special commercial studies. Second, there is an unmistakable need for forms of commercial continuation schools to add to the training and efficiency of those at work who withdraw from school with no training beyond that of the elementary schools. Third, there should be specialized commercial schools, of secondary grade. Fourth, there should be also the various forms of higher commercial schools. Let us note each of these in turn.

I feel that there will be general agreement to a late declaration of the Special Committee of Ten of the National Society for the Promotion of Industrial Education, that grammar schools ought in some way to lead into vocational schools if grammar schools are to serve the great body of pupils who are in them. Quite 70 per cent. of those attending grammar schools never go beyond these schools, and clearly there is an obligation to do something for this large proportion, so that as they go out they may more easily find their places, and better do the work which is to be theirs. Already something is done to this end for industrial education thru the introduction of manual training and various forms of handwork, but little recognition has been given to commercial training in grammar schools. The grammar school's teaching of composition, geography, arithmetic, and nature study can be profitably changed by giving more conscious regard to the commercial era to which its pupils will go. Our grammar school textbooks and methods of instruction are too largely conventionalized. They represent not the present era but are brought forward from an earlier time. In addition to the change just suggested, I feel that grammar schools would be gainers thru the introduction of one or more new subjects. For a dozen years there have been charges against the eight-year elementary-school course that it wastes time, and this waste is most obvious during the last two years which are so largely given over to reviews and repetitions. We teach arithmetic, for example, so long, and by such formal methods, that it almost ceases to be an instrument of education. I feel sure that half a year or a year of the grammar school given to bookkeeping as a form of applied mathematics would be more effective than the present arrangement of arithmetic teaching as a means of education, in addition to which it would be of great practical value. The same statement can with equal truth be made of commercial English (and perhaps shorthand, too) in relation to the composition and English teaching of the grammar school.

Such a modification of the grammar school as is here suggested would afford a better education to those who are compelled to begin work at fourteen or fifteen. It would also give some little insight into the callings of life, so that life's occupation could be chosen more intelligently, and I feel also that such a grammar-school education as is here outlined would be the basis for further education to those who leave the grammar schools to go to work.

The continuation commercial school is a familiar institution abroad, and there it may fairly be said to be a part of the systems of education; in some countries and under certain conditions attendance on these schools is compulsory. Some of them are more narrowly technical after the order of our business colleges, while others are more liberal in character, after the order of the American secondary commercial schools. The important thing in them is that those who are compelled to withdraw from the regular day schools are recognized as having some rights for further education.

In the main our experience with evening schools has not been satisfactory. The reasons are not far to seek. Young workers after long hours are not able to keep up with the requirements of these schools, and they either drop out, or are found unsatisfactory as students. The solution for this form of instruction will likely be found in some form of part-time school, or in allowing young helpers free time from their employments as a means of bettering their equipment, and if so there would be a gain to all concerned. Those who are at work in commercial callings from fourteen to eighteen should have the opportunity for, and I believe also that they should have laid upon them the necessity of, further education, an education which can be given in the commercial continuation school.

Next, attention is called to the technical day and secondary schools of business studies. It appears to me that we have, and shall for a long time continue to have, a place for the technical school, and when this school does not represent itself as other than it is, and when it does its work honestly, we have the highest respect for it. It is to be regretted that so many of these schools have for temporary profit misrepresented their function and led young people in going to them to think that they are going to get what such schools cannot give. They have served to cheapen and discredit commercial education. But the standard of the technical commercial school has been raised in recent years, and many of these are now admirable institutions which are meeting the demands of the present business conditions.

Of the necessity for secondary commercial schools and courses there can be little question. Such schools should, in my judgment, be established as separate institutions in the large cities where there are a sufficient number of pupils for whom this special training is to be furnished. I would regard as next most desirable commercial courses to be provided in the larger high schools, where the separate school cannot be had. The least desirable arrangement, tho one of value, is the introduction of independent and unrelated commercial studies as electives.

It is not possible to formulate any general rule for the establishment of secondary commercial instruction. The needs of each community, and the educational conditions of each locality will determine. In general we would say that commercial schools and courses should be of sound educational worth, and also of practical value. Many of the old subjects should be retained, and I believe that there would be a gain thru giving them a new interpretation and application. The grave danger to secondary commercial education is, however, that it will be too academic, too bookish.

By pretty general agreement it is held that the secondary commercial school should be four years in duration, and I feel that from 60 to 75 per cent. of its time should be given to the general subjects, thus leaving from 25 to 40 per cent. of the time to go on to the specialized forms of study. This arrangement provides for the means of education and for an educa-

tion that leads to desirable practical results. A large introduction of schools and courses of this sort would increase the number of those who attend high schools, would promote sound secondary education, and would send into business those with more intelligence and better standards.

There yet remains for me to mention the place of the higher commercial schools. The need for these schools is so obvious that it is not necessary to dwell upon it. Such schools of widely diversified forms already exist and should be continued and multiplied. At one extreme of the higher commercial schools stands Harvard requiring a full college course and a degree for admission, and the other extreme is the Wharton School of the University of Pennsylvania, which admits Freshmen into specialized forms of commercial study and continues them in these studies thruout all their undergraduate course. Between these two is wide variation, but the largest practice seems to be to make the first two years general or largely so, and the last two years specialized or largely so.

Several of the higher institutions are now establishing a useful kind of work in the form of highly specialized evening courses for those who are employed during the day. Various forms of accounting, and several branches of applied economics lend themselves to the higher evening schools, and such schools give promise of filling a useful place in the future.

In conclusion I can only express anew my belief in the value of commercial education both to business narrowly considered, and to society in general. If those who are directing our educational policies shall accord to commercial education its true place, they will not only render the justice due to our important interest in the community, but they will strengthen and build up our education in general. The time has come when we can subscribe to the educational creed that *our schools are to fit our people to live*, and in the practical application of this creed commercial schools have an important function to discharge.

DISCUSSION

Arthur J. Meredith, director, Commercial Department, State Normal School, Salem, Mass.—There was once a happy time, so we hear, when it was generally understood that educators knew how to educate and the self-satisfied dominie ran his school without criticism from either parents or public. In those days, all boys intellectually inclined presented themselves to a teacher who, after dealing out generous portions of Latin, Greek, and mathematics, sent his pupils away to become honored and envied, in their turn, as pedagogs and preachers. All other boys, having no aptitude for learning, became apprentices and followed their masters into business or trade. No parents complained that their sons had talents undeveloped, no public wondered why the school did not teach growing boys to do something practical, and no mills and factories called for trained workers.

Since those days, things have greatly changed. We still have two classes of boys; and one still pursues the old education, but the apprentice boy has become ambitious for the honor and position hitherto accorded only to his brother and therefore demands education, tho he despises the Latin and Greek. His parents, too, have discovered talents that, if cultivated, might fit him for useful citizenship. The public, looking with

anxiety at the ever-increasing number of business houses, wonders what will become of the industries if the boys are not trained to fill the many empty places. Thus the one-time apprentice boy becomes the problem of vocational training.

In the few minutes at my disposal I shall discuss but one aspect of vocational training. In the enthusiasm concerning new types of vocational schools, there seems to be danger that one of the oldest and most useful be pushed into the background. I speak of the business or commercial high school.

Of late the business high school has been misunderstood. Because it is not a trade school, in the narrow sense, there is an idea abroad that it is a makeshift institution without definite program. This is not true. The business high school is as truly a vocational school as a medical, law, theological, or normal school. We send a boy to medical school to study medical science in general. Because of his immaturity and lack of general medical knowledge, it is not desirable for him to choose a specialty at first. Later, he may become what he likes and has aptitude for, a nerve or fever specialist, perchance. The same thing, in another way, happens in the business high school. Because of immaturity and lack of general knowledge it is not desirable that our pupils become specialists at once, but it is desirable that all branches taught point eventually to a specialty or vocation, perhaps typewriting, stenography, bookkeeping, or what not. Such is the problem of the business high school.

It is the purpose of a business high school to train boys for business pursuits. Any course planned on a narrow technical line will prove disappointing both to the boy and to his employer. A boy comes to the business high school a child. To make him worth a good living to his employer, he must be given broad knowledge and accurate training. He usually has time for this and does not resent so-called cultural subjects if they are presented from the vocational or business point of view. It is justice to him that they should be so taught. Thus the arithmetic of the academic high school should become commercial arithmetic to the commercial pupil; geography, commercial geography; English, commercial English; letter-writing, commercial correspondence; German, commercial German, and so on. Economics, commercial law, finance, and other subjects of this nature complete the course, giving the pupil a real cultural education and also the means of becoming a useful and intelligent citizen. The second part of his education is designed to make him a skillful worker. Penmanship, bookkeeping, stenography, and typewriting put into his hands a means of livelihood by technical skill. This part of the course is purely vocational.

It should never be forgotten that the aim of an ideal business high school is to train boys for business and not necessarily to turn out bookkeepers, stenographers, and typewriters. Many pupils, however, leave the business high school with a vocation. They go into banks as bookkeepers, into offices as typewriters and stenographers, and never change their way of life. Many others start in the same way, for the commercial course makes that possible for each one, but the second boy soon finds himself fitted for better things and leaves for other forms of business. That the boy is no longer a stenographer does not mean that his business high-school course was wasted time. The ideal business high school aims to fit a boy for practical, general business and by means of some technical skill puts his foot on the first rung of the ladder.

THE ATTITUDE OF ACADEMIC HIGH-SCHOOL TEACHERS TOWARD STUDENTS OF COMMERCIAL DEPARTMENTS

JAMES M. GREEN, PRINCIPAL, NEW JERSEY STATE NORMAL SCHOOL, TRENTON, N.J.

The complaint has been made that the teachers in the academic departments have shown more or less disrespect for pupils in the commercial departments. It is self-evident that there can be no statistics on this subject. How much or how little one class of people respects another cannot be tabulated by the census-taker. All one can really do is to record the impressions he has received from hearing people talk and from what he has read.

The writer has spent very much of his life in schools, meeting constantly pupils, teachers, and parents when they were commenting on one or another phase of education.

Summing up the impressions I have received, I should say there has been considerable disrespect felt toward the so-called commercial departments and that this disrespect has reflected on the pupils of these departments in a general way.

I am not of the opinion that the academic teachers are snobbish. They have seemed to me to determine their respect largely by two elements, namely, personal merits and intellectual responsibility.

For instance, these academic teachers have seemed to me to respect very highly a good janitor, even tho they would not want to take his place unless perchance in some instances they became ambitious for money. They have seemed to respect him, not because of the work he was doing, necessary as it was, but because of his faithfulness and efficiency in his work.

Again, they have seemed to respect highly one who has assumed intellectual responsibility: the member of a school board who has stood for a well-defined educational system, even at the expense of temporary unpopularity; the man who has made some notable discovery, Edison or Pasteur; or written an able book, Guyot, Kipling, Holmes; the clergyman or lawyer or statesman who has done something worth while. I happen never to have heard my educational neighbors say anything but praise for Phillips Brooks, or Choate, and they are simply crazy over Roosevelt.

Turning again to the commercial departments, it has seemed to me that the criticisms on them have been pretty true to this bifocal standard.

This is always somewhat due to tradition and heritage. Poetry, alchemy, philosophy are names that suggest a family tree long enough and honorable enough to give at least temporary standing even to the famed "spring poet," but tradition and heritage must eventually yield to the test of intelligent, practical experience.

There has been much said by commercial men and much taught in com-

mercial departments that would command respect simply on grounds of personal integrity. The man who copied the manuscript of the *Old Masters* commands our respect for the legibleness and beauty in form of his letters and his faithfulness to the manuscript, but we never confuse him with the author when we are grading our esteem.

It has been common for commercial men to decry the high schools and say that if a boy was going into business what he needed was to acquire an accurate knowledge of the practical subjects, namely, the most essential parts of the "three R's," and then to get behind the counter. Many of the commercial-school teachers have accepted this proposition and have governed themselves accordingly. They have been willing to say to a boy that if he would come to them for a very short time, three months or so, or a year, they could give him a course of study that would make of him a successful business man, and they have gone on to point to their graduates who were getting fifty, seventy-five, or eighty dollars a month. This statement has in many instances caused the boy to turn from the usual academic school and take the proffered short road to what seemed to his inexperienced eye certain success.

The real observer of life, the true teacher, knows the fallacy of the above teachings, and regards them accordingly. Be it observed, the error is not in the short courses, but in giving one the impression that the short courses will do what they will not do.

Penmanship is a useful art, but it will not make a scholar, it will not solve a problem in mechanics, compose a poem, or build a city. Stenography is a very useful accomplishment and is very valuable in recording sayings, but it will never teach one to utter those sayings.

The lawyers of our section attach a great deal of importance to having a court stenographer, but we have no instance of the court stenographer taking the place of the court in its absence.

Typewriting is one of the very most valuable acquisitions to an office, and one who is skilled in this art can be of great service to the business manager or the composer, but there are no records of this art's substituting the business manager or the composer.

Bookkeeping is the regular and systematic record of business transactions. It is very important as a record, but it is not the business.

Facility in certain rules in arithmetic is very important. To be able to add a long column of figures quickly and correctly is a valuable accomplishment for a bank clerk, especially where they do not own an adding machine, but this accomplishment will not make a banker. The lightning calculator may excite our wonder, but he has no record as a successful business man or even as a mathematician in any fundamental sense.

The above branches may be said to lie within the mechanical belt. They are essential and the person who is skilled in them and is unpretentious will be respected to just that extent, and the school that teaches them

thoroly and is unpretentious will be respected to just that extent. It is only when pupil or school pretends more than is true that it falls in our esteem. It is unfortunate that many of the schools that are confining themselves to this grade of work should call themselves business colleges. To use the name college seems like trying to clothe themselves in a livery that is entirely too large and hence does not look well. The old business slogan, "Honesty is the best policy," is a good one, and may be applied as well to the business school as to business.

What, then, is the open sesame to higher respect for the business school and the student of the commercial course? The answer is to be found in the second part of our couplet, namely, intellectual responsibility.

The commercial school must in no sense be a rival to other schools any more than other schools must rival the commercial school. The commercial school is a special school designed to give certain branches that are not given in the general school. It may give certain general branches that the commercial student must have, but it should be careful to define these branches as general.

What are the branches that directly concern the higher phases of commercial life? Perhaps an illustration may prove suggestive. There is in our section of the country a large department store. There are, in this store, rug, carpet, lamp, china, office furniture, parlor furniture, silk, muslin, lace, jewelry, library, and many other departments.

The proprietor of this store has a general knowledge of his business and he supplements his general knowledge by employing heads of departments who are technically well informed. One could not guarantee to state all that proprietor and his assistants would need of the knowledge of the higher order, but the following are some of the lines on which they would want to be informed:

> Commercial law, sufficiently to know the general features of a valid contract, both in our own country and in the foreign countries with which they were dealing; political economy, so far at least as it relates to tariff laws, interstate commerce, etc.; banking rules affecting money exchange, and clearing-house regulations; conditions of labor so far as they affect the prices of the different commodities; something of the general standards of valuing goods.

These branches require a high degree of intellectual accomplishment and one that compares favorably with that of other lines. Indeed these branches are found in many of the academic general courses.

The history of an oriental rug would be quite largely an illustration of the essentials in the history of labor. It involves some general knowledge of art and how that knowledge is made common, the value of fabrics, something of the processes of dyeing, the cost and character of living, the security of transportation, the various tax-rates, and the natural explanatory conditions.

Any intelligent appreciation of a banking system requires good thought.

The ethics of a good banking system might well engage the attention of our leading pulpits. What does it mean to a country when one may accept the note of a bank three thousand miles away as readily as that of a bank at his own door? He who can answer this question must see the loom of destiny as it weaves the warp and woof of confidence and economy into national strength.

Interstate and international commerce are subjects that are vital to the life of a people. Our avenues of interstate exchange are the very arteries thru which the red blood of the nation must flow. Check or congest these arteries by unnatural restraints in the form of tariffs, taxes, rates, tedious inspections, etc., and you as surely produce fever or paralysis in the state or nation as you would produce these diseases in the human body by the introduction of unnatural or indigestible matter into the arteries.

Stability of government and its relations to commerce form a most interesting phase of the general relations of government to commerce. The so-called revolutionary governments are not inviting to commerce. The payments are too uncertain.

It might be invidious to mention names in this presence, but one can readily recall having heard a number of commercial men say within the last two or three years of one nation that its people had no sense of moral responsibility, no appreciation of sacredness of contract, that if they paid it was due to a sense of expediency rather than honesty; of another country that it was not safe to ship goods there, for if you shipped them in times of peace they might arrive in the midst of revolution.

One readily recalls the effect upon commerce of the unsettled conditions of labor during the past few years when men have been afraid to contract for any large amount of supplies lest thru disturbances of some kind prices would so change as to reverse profits.

I am willing to accept the charge that the academic teachers have not always been as respectful as they should be, but I cannot take the matter very seriously. That which has been the fate of the commercial departments has been the common fate of all departments. Each department has its mechanical phases and all departments if rightly conducted reach up into the higher phases of thought, the realm of the ethical.

What the various departments need for the promotion of mutual respect is to get better acquainted with each other and with themselves.

We are all prone to view education too much from the personal point of view. Educational values are not determined by individuals or communities. They are determined by races and nations. The voyager who leans over the forward rail of the ship and looks down into the waters sees deep green, purple, silver, or opalescent, all the colors of the rainbow. It is when he looks away over the broad expanse of the ocean that he sees only blue. The great blue of life's ocean is the ethical. The clergyman, the statesman, the jurist, and the scholar have the same ultimate purposes.

The law of life is the "philosopher's stone" they are seeking. There are many means to their ends, many branches that must serve their purposes. The greatest surgeon is dependent on the man who can best sharpen an instrument.

What we need more and more, and what the future must bring us more and more, as the result of our continued studies, is the power better to define our specific work and better to see things in their right relations.

DISCUSSION

Frank O. Carpenter, head of Department of Commerce, English High School, Boston, Mass.—The attitude of the "old-line" teachers is still distinctly hostile and antagonistic, as all who have had experience well know, whenever they come into comparison with the newer commercial studies and their teachers and students. This is due to several causes, which in the few minutes at my disposal I can mention only briefly:

First, the dislike of most people to a new and unknown thing.

Second, what may be called the pride of ancestry, or the feeling that the old is necessarily of higher grade than the new, and so the new must be looked down upon.

Third, the fact that with the rapid increase in the number of pupils in commercial branches, the divisions in the "old-line" studies grow fewer and those teachers must learn to teach new subjects or lose their places. The dread of this real danger arouses opposition.

Fourth, the absolute ignorance of what the newer subjects teach because the teachers will not try to find out what they mean. A head of a department in a great high school said commercial geography could be learned in a few hours' reading out of school.

As to the ways in which the hostility shows itself, they are many:

a) The principals arrange the programs so as to make the taking of commercial subjects difficult for those who seek them.

b) The teachers and pupils are frequently spoken of in a slurring way or openly told that they are not equal in importance to the others.

c) Supplies given to other courses are denied to commercial ones. Equipment with up-to-date apparatus is refused. Teachers must buy specimens at their own expense or go without. When bought they are refused proper places needed for protection or display.

d) Diploma credit given to classical or "old-line" studies is often twice that allowed to the new courses.

In spite of all this hostile feeling, the commercial courses grow larger every year, the colleges begin to accept some for college entrance, the old-liners are forced at times to defend their right to be called superior.

But the end is not yet near at hand. The fight is still bitter. Commercial teachers must for years yet bear the "slings and arrows of outrageous fortune," and the discouragement that makes the heart sick. They must work as they do so often for the consciousness of doing practical things of value to the pupil in real life, and the sympathetic greeting of their fellows in the work, which is one of the helpful things we find in teachers' meetings like this.

The day is dark, and sad, and long;
Fight on, strike hard—tomorrow comes the *song*.

DEPARTMENT OF CHILD STUDY

SECRETARY'S MINUTES

OFFICERS

President—Will Grant Chambers, dean, School of Education, Univ. of Pittsburgh..Pittsburgh, Pa.
Vice-President—A. H. Yoder, superintendent of schools.....Tacoma, Wash.
Secretary—C. B. Robertson, superintendent of training, State Normal School.....Cortland, N.Y.

FIRST SESSION.—Tuesday Forenoon, July 5, 1910

The first session met in the New Old South Church, Boston, at 9:30 A.M.

The meeting was called to order by President Chambers, who welcomed the members of the Kindergarten and Elementary Departments to this joint session, expressed appreciation at the large attendance, and thanked the second-year class of the Mechanic Arts High School for the beautiful gavel which they made and presented to the president of the section.

The topic of the meeting was "The Special Child." The first paper was "The Detection of Danger-Signals in the Development of the Young Child," by Maximilian P. E. Groszmann, of Plainfield, N.J., discussed by F. G. Bruner, assistant director, Department of Child Study and Pedagogic Investigation, Public Schools, Chicago, Ill.

This was followed by addresses on "Exceptional Children in the Elementary Schools," by Robert J. Aley, state superintendent of public instruction, Indianapolis, Ind., and "The Influence of Environment and Education upon the Development of the Atypical Child Beginning with the Kindergarten Years," by Dr. S. Philip Goodhart, of New York City, N.Y.

SECOND SESSION.—Thursday Forenoon, July 7, 1910

The meeting was called to order by the president at 9:30 A.M.

The subject for this session was "The Child-Welfare Conference," and the papers were "The National Child-Welfare Conference: Its Work and Its Relation to Child Study," by G. Stanley Hall, president of Clark University, Worcester, Mass., and "How Every School May Be a Child-Welfare Conference," by William H. Allen, director, Bureau of Municipal Research, New York City, N.Y.

The attendance was so large that an adjourned meeting of the section was held in the Boston Public Library to give all who wished an opportunity to hear Dr. G. Stanley Hall. Several hundred came.

The president appointed as the Committee on Nominations:

J. George Becht, principal, State Normal School, Clarion, Pa.
G. W. Twitmyer, superintendent of schools, Wilmington, Del.
C. B. Robertson, Cortland Normal School, Cortland, N.Y.

The meeting then adjourned.

THIRD SESSION.—Friday Forenoon, July 8, 1910

The meeting was called to order by the president, who introduced the speakers of the following program:

Topic: Some Newer Applications of Child Study

1. "The Hygiene of Instruction"—William H. Burnham, Department of Pedagogy, Clark University, Worcester, Mass.

2. "Child Study and School Organization and Administration"—F. E. Spaulding, superintendent of public schools, Newton, Mass.

Discussion led by Joseph B. Richey, superintendent of public schools, McKeesport, Pa.

3. "What Should the Public School do for the Welfare of the Subnormal Child"—Henry H. Goddard, director of psychological research, Training School for Feeble Minded Boys and Girls, Vineland, N.J.

Discussion led by George W. Twitmyer, superintendent of schools, Wilmington, Del.

The Committee on Nominations reported, recommending:

For *President*—Will Grant Chambers, dean, School of Education, University of Pittsburgh, Pittsburgh, Pa.

For *Vice-President*—Louis M. Terman, professor of education, Leland Stanford Jr. University, Palo Alto, Cal.

For *Secretary*—C. B. Robertson, State Normal School, Cortland, N.Y.

The report was accepted and the secretary was instructed to cast the ballot of the department for the several nominees.

The meeting then adjourned.

C. B. Robertson, *Secretary*

PAPERS AND DISCUSSIONS

DANGER-SIGNALS IN YOUNG CHILDREN

MAXIMILIAN P. E. GROSZMANN, EDUCATIONAL DIRECTOR OF THE NATIONAL ASSOCIATION FOR THE STUDY AND EDUCATION OF EXCEPTIONAL CHILDREN, PLAINFIELD, N.J.

It is one of the wholesome results of child study that teachers and parents are becoming aware of the necessity of observing symptoms of exceptional development in their children so as to adjust educational measures to individual conditions. We are gradually, altho still very slowly, outgrowing the conception of a child as a being which can be handled and molded at will.

We are beginning to understand that manifestations which may be displeasing to us are not necessarily expressions of a child's evil genius. The entire idea of discipline and punishment is undergoing a change. We are learning that many of the so-called naughtinesses of children may be merely danger-signals indicating disturbance somewhere. Apparent disinclination to obey may be due to imperfect hearing; aversion to reading and writing, to imperfect vision. Ugliness and irritability may be caused by astigmatism which in its turn produces eye-strain and persistent headaches. Laziness may be a symptom of anemia or neurasthenia, or it may be caused by malnutrition, overexertion at home, lack of sleep, or of ventilation in the child's sleeping-chamber. Fretfulness may have its cause in a great number of various conditions, notably indigestion. Educators are oftentimes inclined to feel very much vexed when a child makes grimaces, is inclined to giggle and babble, and to disturb the artificial discipline of the schoolroom by whispering. And yet these manifestations, as well as others, like sniffing, coughing, restlessness, and inattention, may be, and almost always are,

symptoms of nervous disease. They may be enumerated among the so-called habit tics or habit spasms, like twitching, shrugging, shuffling, grinning, sighing, yawning, echolalia (the repetition of words spoken by another, as for instance repeating a question before answering it), uttering curious sounds such as chirping, etc. Again, momentary inattention and absent-mindedness may be due to a mild form of *petit mal*, i.e., epilepsy. Sudden attacks of excitement, outbreaks of temper, destructiveness, hitting other children, and the like, suggest the presence of psychic epilepsy. Then there are the manifold movements characteristic of chorea; and while true hysteria is a disease which does not develop before the adolescent age, there are quite a number of conditions in children which may be counted among hysterical symptoms. An emotional temperament is one of them, and the instability of will and irresponsibility, another. These symptoms are very often found in young girls who seem to be predestined to develop true hysteria unless preventive measures are taken at the right time. It has been observed by many that an exaggerated imagination and selfishness, or rather self-centeredness, go with these symptoms; and that deviations from the truth and often surprising fabrications are characteristic of this condition. Children's lies are a chapter in themselves. Books have been written on the child as a witness, showing how unreliable are the statements of children, even of those who are usually considered truthful. Stubbornness and disobedience, qualities which are usually judged in the sense of disciplinary conditions, may reveal themselves to the careful observer as danger-signals indicating disease of some kind

For the sake of completeness of statement it is necessary to add that the conduct of children exhibits, in too many cases, conditions which are danger-signals not so much in the development of the child himself as in the manner of his education. The wisdom and judgment of the educator are in question when all is told. Very few of us have as yet a clear knowledge of the physical and psychical life of the child, and a faulty reaction on the part of the child may simply mean that we have handled him incorrectly. In normal schools and college courses, teachers are now receiving a better preparation for the management of these budding souls. But parents are, as a rule, sadly deficient in the wisdom and training required for the education of their children. I say this in spite of the fact that we have now mothers' clubs in all cities of this broad land; for mothers come together in this way only after they have made their fundamental mistakes in regard to their own children. And fathers' clubs there are none. What is needed is to put false modesty aside and to consider no man or woman fit to marry who cannot give evidence of a training in parental functions. There are laws which prevent persons to marry who are physically unfit. The next step is to prevent those who are educationally unfit.

To make a more detailed study of danger-signals, we must first develop the observational attitude of the diagnostician, and train ourselves to con-

sider as a symptom everything which we cannot readily explain. And for every symptom we must train ourselves to look for a cause. Proper observation implies a careful distinction between the facts observed and the explanation we may give them. It is a very common error to substitute our interpretation of a fact for the fact itself, and thus records of children are often vitiated. And only one who can inspire a child with confidence, and who puts the subject under observation absolutely at its ease, will gather reliable data.

The list of symptoms enumerated before will put many parents and teachers on their guard and point the way toward a better understanding of a child's real condition. But some more specific suggestions may be made.

A normal type may be conceived as representing all functions in proper poise, all potentials of complete personality being present and unimpaired in growth and development. On this basis, we may say that any perversion of function which shows a tendency to persist is a danger signal, be it in the province of the physical or the mental life of the individual. Occasional indigestion, an isolated error of judgment, or an outbreak of anger or something like that means nothing; but as soon as any of these perversions become persistent, they will destroy the equilibrium of the personality and must be studied as to cause and relief.

Poise is established by having the different aspects of human personality well related. Human life is determined by principles of growth and development: growth as to size and weight, and development as to organization, differentiation, and function. There is first the size and weight of the body as a whole; then there is the evolution of the bony skeleton, of the muscles and organs, of the central and peripheral nervous system, not to forget the so-called sympathetic system which regulates the functions of the viscera. Upon the growth and development of the nervous system depends the development of the functions of the intellect and will. Abnormalities of growth and development are distinct danger-signals.

In determining growth periods there has recently been made the very helpful distinction between the chronological, anatomical, physiological, and psychological age of children. A boy of twelve in years is not necessarily a boy of twelve in development. Even if his anatomical growth be normal for his age, his physiological function or his psychological evolution may lag behind, so that he is actually only nine or ten years old. Or it may be the other way: he may be mentally normal or even precocious, and backward in weight and size. Any such discrepancy will cause a tension fraught with danger.

Our first care must be therefore to discover whether or not the anatomical structure and the physiological function in a child correspond to the age standard. This will imply body measurements and a number of tests and observations, some of which may be made in the home and in the schoolroom while others require the co-operation of a physician.

Child study, it will be remembered, implies the strictest co-operation of educator and physician.

In the matter of body measurements, it is more important that the figures for height and weight should correspond than that a child be average in these measurements. In other words, a child may represent a smaller (or larger) type without danger to his development. But if he should weigh less than the average boy of his age, and his height be average or even above the average, or vice-versa, there is reason to investigate. Excessive or distinctly stunted growth are of course also abnormal.

X-ray pictures of the developmental state of the small bones of the wrist, according to the method of Professor Thomas N. Rotch, of Harvard, promise to become a scientific test for the anatomic age.

Further observation can be made in the various provinces of physiological functions. Facts of respiration and heart action, of appetite and of digestion, of headaches and dizziness, of muscular strength and grip, enter into this group of observations. It has been found, for instance, that the grip of the hand is a good index of intellectual development. Feeble-minded children, even those who exhibit much muscular strength under excitement, have a much lower grip figure than normal children. The element of control enters here, and it is seen that some of these tests, which appear to be simply physical, have a psychic element.

Frequent urination is an important symptom. It means either a distinct disease, or lack of volitional control, in other words a psychic defect. It suggests itself therefore that regular examinations of the urine of children be made for disease of kidneys, diabetes insipidus, intestinal intoxication, etc. There might also be examination of the blood for anemia, leukemia, parasites, i.e., malaria, inflammatory states, etc.; also of the feces, for ability to digest various foods, intestinal parasites, etc.

The so-called growing pains in children are a rather suspicious element. They are often rheumatic in nature and require special attention. Rheumatism of childhood is dangerous for the reason of its insidious onset and never very active acute manifestations.

It might seem needless to say that any weakness of the special senses must be considered a danger-signal. Yet even defects of vision and hearing are often overlooked, and what is caused by inability to see and hear distinctly is ascribed to inattention and unwillingness. The acuteness of these two most important senses should be determined by the ordinary tests which are so simple that they can be employed anywhere. As has been said before, eye-strain is very frequently accompanied by headaches; chronic headache is therefore a danger-signal. The other special senses—taste, smell, and touch—not to speak of the muscular sense, rarely receive the attention they deserve. Yet we often find curious defects which may be considered as indicative of incomplete potentials and consequently of incomplete sensation. If we remember that under certain circumstances we

may have to fall back upon one or more of these neglected senses, as in the case of Helen Keller, we may well be reminded of their importance. Speaking of sense tests, it must not be omitted to state that certain illusions of sense are characteristic of the normal mind, and their absence consequently is an indication of abnormality. Let us be reminded of the various optical illusions, and of the well-known weight tests. There are, however, illusions, and, further, what have been called hallucinations, which are distinctly pathological. They may be observed even in young children.

Defective teeth are invariably a danger-signal. They may prove the existence of various functional diseases, hereditary or acquired, which prevent their proper formation and growth; or they may point to malnutrition and other temporary causes. In every instance, defective teeth interfere with the proper mastication and digestion of food; with the protection of the nasal-pharyngeal cavity; and with proper articulation.

It has often been suggested that left-handedness is a danger-signal. It certainly indicates a deviation from typical conditions. Right handedness is a very ancient characteristic of the human race and even primitive peoples are practically right-handed. Left-handedness is therefore not to be considered in the light of a primitive trait. As a matter of fact, left-handed individuals are found among the very intelligent and skillful; left-handedness is, then, not in itself a danger-signal unless it is coupled with other defects. It has been shown that the usual right-handedness may have one cause in the arrangement of the blood supply from the heart which favors the right arm; left-handedness would, therefore, mean a reversion of this arrangement.

Another cause of the right-handedness of a great majority of men, however, is the stronger development of the left hemisphere of the brain. When, therefore, left-handedness is connected with speech-defects, as it often is, it would reinforce a diagnosis of defective central condition; for speech-defects, unless caused by anatomical defects in the organs of speech, can be explained only by underdevelopment or lesion in the speech-centers of the left hemisphere. Speech defects are most pronouncedly danger-signals.

Here we come to the large number of danger-signals in the development of the nervous system. And this is at the same time the province of psychological disorders. It must, however, again be stated that there is a constant interaction between bodily and psychic conditions, and that it is impossible to separate absolutely the psychical from the physical. Bodily symptoms will indicate psychic defects, and psychic symptoms will indicate disturbance of physiologic functions. Some of the danger-signals in this province are changes in temperament (crying or laughing readily) and unwarranted attacks of temper; rapid fatiguing and disinclination for effort; drowsiness; excitability; insomnia. Of the habit spasms I have already spoken. Then there are defects of memory and judgment as well as lack of

determination and decision. A mechanical memory alone is not a sign of intelligence, and is found in remarkable development even among imbeciles. Precocity is another sign of eventual nervous strain and derangement.

Some very complete measuring scales for intelligence have been recently suggested by such men as Dr. Sante de Sanctis, of the University of Rome, Italy, and the famous French psychologist, Dr. Binet. They combine motor, sense, and intellect tests, so graded that we may determine the psychological age of a child by applying them systematically. As they have been tried with a great many children they may be considered fit to give truthful results. If, for instance, a child of nine years cannot respond properly to all the tests suggested for children of this age, but only to those prescribed for children of eight or even seven, we have a grave danger-signal in the matter of intellectual development.

In the sphere of will we must consider signs of weakness and indecision, of wavering and changeability; and any perversion of will and moral defects, like persistent lying and stealing, are plain indications of pathological development.

A complete system of observations and tests would embrace all the elements touched upon in this paper. Experiments along these lines have already been made in certain school systems, and in psychological laboratories and clinics. But the number of children so tested is small and most of them had already been found distinctly deficient.

To make the status of the child still more evident, it will be necessary to include data from the earliest history of the child; and as much of the family history as can be ascertained. Only a complete tabulation of all these data will show all the danger-signals which we ought to know about, in their perspective so that we may neither underestimate nor overestimate. It is evident that any single fact may mean little or nothing unless it is taken in connection with other facts. And a consensus of various observers will eliminate the element of personal error or emotional bias.

Altho I may say that I have in my own practical experience proved its feasibility to a large extent, a complete system such as it has been my privilege to suggest may not be very readily introduced anywhere. Nevertheless, it is to be hoped that these suggestions will open the eyes of many teachers and parents to what should be observed and what the educator must be on the lookout for. We may hope for a more universal realization when the time comes that the family physician will be the hygienic adviser of parents rather than the unwillingly called-in healer of diseases; and when every school will be a pedagogical clinic with the co-operation of the medical, psychological, and pedagogical expert. My suggestions of today will at least affect, I hope, the disciplinary attitude of educators, so that teachers and parents will learn to consider themselves students of child nature and of the individual children under their care, rather than their tamers and drill-masters. And the time may come when each child will be as carefully

observed as the breeder of horses or chickens observes his brood; when there will be a science of education, a science of parenthood, a science of teaching; when it will not be considered stupendous and preposterous to give each child such minute care and study as will establish his full status.

Some day the beautiful words of Froebel: *Lasst uns unseren Kindern leben!* (Let us live with our children!) will become a reality, and we shall learn to appreciate the full significance of the ancient Roman proverb: *Principiis obsta!* Resist the beginnings!

DISCUSSION

Frank G. Bruner, Department of Child Study and Educational Research, Public Schools, Chicago, Ill.—I am in sympathy with what Dr. Groszmann has said and for the most part am ready to indorse every sentiment. He certainly has presented an array of marks or signs of danger, so that he who runs may read, and not go astray. Let me assure those of you who have before now concluded that the task of detecting danger-signals among your children is hopeless, inasmuch as most of us may find a sufficient number of these on our own persons to make out a clear-cut case of degeneracy, that, after all, there are some individuals who bear all of the marks of irregularity that have been cataloged by our speaker, and are still living. As a matter of fact it is not the presence of one or two or a dozen of these danger-signals that causes the careful diagnostician to characterize an individual as exceptional, but the degree of each and the kinds of defects that are found to be present together.

Dr. Groszmann has spoken in favor of a clearing-house to which children possesssing danger-signs might be taken, given careful psychological and physical examinations, and as a result disposed of pedagogically in accordance therewith. He did not tell you that just such a clearing-house, or laboratory, has been in operation in Chicago for more than twelve years and that therein are passed upon between thirty-five hundred and four thousand children each year. I am glad to have the honor to represent that laboratory here today and to be able to tell you in a word of the kind of work that we are trying to carry on. To this laboratory are brought not only the abnormals, the blind, deaf, crippled, truant, incorrigible, epileptic, nervous, and the anemic, but also the precocious, those perfectly normal so far as school reactions are concerned, but whose parents are seeking advice as to the best future course to pursue in their schooling, and in aiding them to choose their life-calling.

All the exceptionals, for whom the Board of Education has provided special school advantages, are, before being enrolled in the several special centers, given careful mental and physical examinations and their right to admission passed upon. If recommended for admittance, there is sent to the teacher who will have the child a detailed report of the findings and the educational program which will be most effective in his particular case.

Let me just add that the department has been effective in securing results, such that only a fraction of the demand made upon it can be met because of the inadequacy of the examining corps. Such a department ought to be a part, at least, of every large school system, inasmuch as the net benefit to childhood is simply immeasurable.

Luella A. Palmer, Public School No. 63, New York City, N.Y.—I wish to tell you of the growing interest of kindergartners in the exceptional child. We have an excellent opportunity to discover them, as our classes are small and we can come in closer touch with each child than is possible in the higher grades. It is important to diagnose the special cases early in order that the treatment given may not emphasize rather than cure any abnormality. The physical signs that indicate lack of mental balance should be studied in more of our training schools than at present. Besides this study we need a

child specialist who can be consulted by each kindergartner to prescribe the proper treatment. I hope that the agitation for the consideration of each child as an individual will result in (1) the establishment of a consulting child specialist; (2) the doing away with the peremptory age condition for the entrance and promotion of children in the kindergarten—at four a child may be too young for entrance, and he is sometimes ready for the grades at five and a half, while others should wait until seven years; and (3) I hope some method will be adopted by which knowledge of a child's mental as well as physical peculiarities may be passed on to the next teacher.

W. N. Hailmann, Cleveland, Ohio.—I approve highly the danger-signal message of Dr. Groszmann, but hope that equal scholarship will devote itself to the task of listing the danger-signals in the work of the school to which so often arrested development can be traced. A few of these are: the excessive length of periods of recitation, the use of formal gymnastics for supposed rest, herd-teaching, constrained positions for the sake of so-called order, oversupervision of the teacher's work, the prevalence of criticism with corresponding neglect of encouragement, the parsimony of love, the absence of social work in which individual power can assert itself, etc.

I sound a warning against excessive regard for heredities, the progeny of environment, and the will to live; "the way of progress lies invariably thru environment." The most dangerous form of heredity is in tradition, a species of social heredity, rendered the more dangerous by the proud consciousness of achievements in the past.

CARE OF EXCEPTIONAL CHILDREN IN THE GRADES

ROBERT J. ALEY, STATE SUPERINTENDENT OF PUBLIC INSTRUCTION, INDIANAPOLIS, IND.

Exceptional school children may be divided into a number of classes. A very convenient classification is, those who are subnormal, those who are retarded because of neglect, those who are behind in one or more subjects, and those who are so gifted as to be above the normal type.

Few subjects have received more attention in recent years than the care of the subnormal child. Nearly everywhere provision is made for his care and for the training that will lift him as nearly to the normal as possible. This work has made such headway and has been discussed so frequently that we shall pass it by with a mere word of commendation.

In every community there are children who are undeveloped physically, mentally, and morally. Because of early neglect they have not had the attention that would preserve their health and they have been forced to live under conditions that have stunted both their moral and mental growth. These children need special attention. In many cases they need the services of a skilled physician. Societies and school officials in many of our educational centers are giving to these unfortunates the attention that will soon remove many of their shortcomings. This is an important field of work already well occupied. It should be extended to provide for the care of every child belonging to this class.

In every system of schools there are numbers of children who make normal progress in all their subjects of study except one or two. These troublesome subjects are sometimes made the excuse for holding the pupil

back in all his work. When this is done discouragement usually follows and the child is frequently driven from school. Many schools are meeting this difficulty by arranging for special instruction in the branches that give trouble or by placing pupils of this sort in ungraded schools. This class of exceptional children is large and deserves the thoughtful consideration of school officials everywhere. When these children are treated in a thoughtful, sane manner, they soon step out of the class they have been in and join the normal group.

The fourth group of exceptional children has not received so much attention as the other groups. The unfortunate child naturally elicits more sympathy than the gifted one. Many teachers who recognize the problem relating to the children below the normal type have never realized that a problem of equal importance confronts them in the children who are above the normal type. It is a common practice to hold these gifted children back with their less gifted fellows. When this is done they become discouraged and often leave school.

In the emphasis given to the care of exceptional children who are below normal, there has been a tendency to deplete the ranks of the regular force of the very best teachers. This should not be. The gifted child needs the direction of the best teachers. For him the best is not even good enough. In no place outside of the school do we find the best talent devoting its time to low-grade material. School work has been too long under the partial domination of the sentimentalist.

The farmer who applies the principles of science to his work knows that if he would grow high-grade corn, he must give attention to the selection of seed, and be sure that it is above the average quality. In the cultivation of the crop he does not surround the most promising stalks with those that are stunted and retarded in growth. Both science and experience have taught him that if the promising plants are to yield superior grain they must be given a chance to do so by encouraging them to do their utmost, and by removing from them the weakening competition of unpromising plants. He gives to the best plant the best soil, the best cultivation, and the best thought. The analogy between the growing of corn and the growing of men may not be complete, but it is certainly significant.

The history of civilization shows two things with great clearness: First, the progress made by a people is always closely related to their general intelligence. In no state where the percentage of illiteracy is high has great progress been made. Second, in every case where the advance has been notable, it has been led by men of superior power. All great forward movements have been in the hands of leaders. Where the whole body of people are intelligent, well educated, progress may be noticeable, but it will be slow unless there are those who are superior to their fellows that step forward and lure their fellows on. These two facts make it important that civilization, for its own preservation, make ample provision for the care of

all the people, those that are below the normal type itself, and those who are above it.

In every group of children there will be found one or more who are superior to their fellows. They are the leaders. When the gang instinct is at its height, it is the child of this type that leads the gang. Every school has one, two, or half a dozen boys and girls of this character. They have intellects that are keen and strong. They possess qualities that the world needs. Frequently it happens that the school lacks sympathy with these traits. The child with the power to get his tasks in an incredibly short time is too often the bane of the teacher. She does not understand him because he does not agree with the normal type. Teacher and pupil become antagonistic and the result, all too often, is that the most promising child is eliminated from the school.

A catalog of the superior men and women of the last century, those who have achieved the position of leadership in some form of human work, would show a surprisingly large number who have found the school irksome and unsuited to their needs. Many of them left the school at an early age and got the education that gave them their power outside of school walls. It is an unpleasant commentary upon our schools that so many of the strongest men and women have been unable to find in the school that which would satisfy them. The school ought to be the place where genius of the highest order could receive the encouragement that it needs and the training that will make it most effective.

It happens every year that our colleges vie with each other in conferring honorary degrees upon men who did not succeed in school. They are eminently worthy of the degrees they receive. Their success has proven them to have ability of unusual quality. They had to make good before the school discovered them. The school should have found them when they were in the grades. Had it done so they would have come into their own much earlier in life.

The first step necessary in bringing about a more appreciative consideration of the gifted child is a popular awakening to the importance of this subject. School officials need to think more upon the problem, give more time to its discussion in their meetings, and speak oftener in public upon the necessity of finding a proper solution. Judging from the popular interest in the other classes of exceptional children, it is believed that equal interest may be aroused in the gifted child, if we give attention to the subject. This association should start a movement which will give much publicity to the value of leadership and to the desire of the school to meet the needs of those who are specially gifted for this sort of work.

The school will never accomplish what it should with a child of unusual ability until the number of children per teacher is greatly reduced. We have already found by experience that in handling children belonging to any of the other exceptional classes we must do it individually or in small

groups. So long as the children are of normal, uniform type, one teacher may care for thirty or forty. But to meet the needs of those who vary from the type, smaller groups are absolutely essential. These varying types must be reached individually. They must be understood, all their peculiarities noted and taken into account. Before the needs of all these exceptional classes are met the cost of the school will need to be doubled. This, however, will be money well spent if it succeeds in making it possible for the child of superior power to come easily and quickly into its heritage.

In large systems of schools it is feasible and desirable that gifted children be thrown together in groups. Where there are enough children of this type to form a special school the problem of meeting their needs is easily solved. Of course, in a school of this sort teachers of the very highest ability are needed. They must be skilled in all the arts of their profession; they must possess warm sympathies. They should be able to understand the child's point of view, and young enough to enter with enthusiasm into the childish attainments.

In most of our schools the gifted child, for a time at least, will have to be cared for by the regular teacher. The care under these conditions cannot be all that is desirable. It can, however, be of great value if the teacher makes it a matter of thoughtful consideration. Sympathy and understanding are the two great essentials in treating the superior child. The fact that the child is superior takes him at once out of the ordinary class and makes him more difficult to understand. Patience, interest, and sympathy are needed. Indeed, these qualities are indispensable in the solution of any problem whose answer is valuable. The power of the teacher may be illustrated by the stories of two boys, both exceptional and both above the normal type.

More than a generation ago in a southern Indiana town, there lived a boy with a consuming desire to draw pictures. In school, his attempts met with frowns, rebukes, and punishments. He was finally driven from school. His home joined in the attempt to thwart his genius. He was forced out to fight his way to success without the help of either home or school. He won fame as an artist, but went to an untimely grave because of the unnecessary hardships forced upon him by those who should have understood him. No old teacher of Samuel Richards, as he stands entranced before his immortal conception of Evangeline, can have the joy of saying, "I understood him as a boy and helped to make possible his greatness."

Some years ago a friend handed to James Whitcomb Riley a copy of a book of poems by Lee O. Harris. The friend remarked, "Here is a volume by your rival."

Mr. Riley glanced at the title page and replied, "My rival! He was my teacher. I am glad that justice has been done and his poems are now in print."

Then as he turned carefully thru the volume he told this story:

I did not get along very well in school for most of the requirements were irksome to me. The school did not make an appeal to me. The subjects were dull and uninteresting. Indeed, in many of them I could find nothing that I understood. I liked to draw pictures, but this in the old school of my boyhood was forbidden. It was a crime punishable with a whipping, and a whipping at school meant another one on reaching home. One Friday afternoon when the tasks bore more heavily than usual upon me, I became interested in watching my teacher as he was attempting to lead a class of unruly boys and girls into the fields of knowledge. His attitude and that of the class appealed to me. I seized my slate and pencil and went to work to reproduce the impression. I became lost in what I was doing. I drew the master with uplifted arm and an expression of intense earnestness, before him the class, listless, inattentive, half-rebellious. As I touched the picture here and there to better express the ideas that were in me, I was suddenly brought back to the school by the presence of the master standing by my side. I made a hasty effort to put the slate beneath my desk and erase the evidence of my crime. The master seized my arm and said, "Don't erase it, Jim. It is good." I have stood before many great audiences, I have received the Chautauqua salute and the repeated cheers of those who have listened to my work. All these have been sweet music, but none of them compare to the thrill that went up and down my little spine when the master said, "Don't erase it, Jim, it's good." He asked me to stay after school. I knew that I had failed many times on my tasks during the week. I knew that the rule of the school was that three failures were followed by punishment on Friday evening. But somehow the master's commendation had put about me an atmosphere and into my soul a peace that caused me to look forward to the staying after school with pleasure rather than with pain. When school was dismissed and the pupils had gone, and the master and I were all alone, he said, "Jim step to the front door, look up and down the road and see if anyone is coming." I did so and reported that no one was in sight. He told me to lock the door. I obeyed. Then he had me look out the windows on both sides of the schoolhouse to see if anyone was in sight. No one could be seen. He then called me to his side and he said, "Jim that was a fine picture you drew this afternoon. You caught my characteristic attitude. You showed the pupils just as they were. It was good." And again that thrill went up and down my spinal cord. Then he said again, "Go to the windows, and see if anyone is in sight." I hurried to the windows, looked out on both sides, but saw no one. I went back to his side and he said, "Cross your heart, tell me truly that you will never tell." I did so. He opened his desk and from somewhere in its depths he brought out a book and read a chapter to me. I sat there enraptured. It was a chapter from Ivanhoe. Then he said to me, "Jim, if you are sure that you won't tell and that you can keep this book from the observation of everyone, you may take it home with you and keep it until Monday." He handed me the book. I concealed it under my coat, went home with a heart that was beating fast, approached the barn by a circuitous path from the rear and secreted the book in the haymow. Saturday morning early I was in the haymow and there on my stomach, thru the long forenoon I read. Immediately after dinner I was back again. I read Sunday forenoon and afternoon and late Sunday evening I had finished the book. The romance of it had gone into my soul. The commendation of my picture and the reading of Ivanhoe, both made possible by the old master, marked the turning-point in my life. I verily believe that had these two things not occurred I would today be a tramp and an outcast. The thrill and romantic joy of the great story gave me a new impulse and an interest in life. Whatever I have accomplished, I owe to my old teacher, Lee O, Harris."

Without doubt, there are hundreds of embryo geniuses discouraged and down-hearted who would enjoy newness of life if some teacher would touch them as Captain Harris touched James Whitcomb Riley. The teacher who

is willing to study the child, get into sympathy with him, gain his point of view, find out his interests, has the opportunity to do just what the old master did for Riley. It is a great thing to be the teacher of any child, but it is worth a whole life of sacrifice to receive the tribute that came to the old master from the great Hoosier poet.

THE EXCEPTIONAL CHILD; THE INFLUENCE OF ENVIRONMENT AND EDUCATION UPON HIS DEVELOPMENT BEGINNING WITH THE KINDERGARTEN YEARS

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Among the questions of great import for the progress of the human race, one of the foremost concerns the future of the atypical, so-called nervous child. He differs mentally from the ordinary, the accepted standard of the so-called average child.

The exceptional child represents a class by himself, tho in his variations he presents widely divergent characteristics. He is not the defective child as we understand the term, nor can we consider him abnormal. He does not show recognized mental enfeeblement and could not be classified with such types as the dullard or imbecile. The latter class, comprising as it does a vast host of humanity, much of it almost totally lost, but with which our educators have to deal and which in the last few years is being provided for by special education, is of vastly less importance in so far as their contribution to human progress is concerned, than the class which I am here bringing to your attention. Whatever opinion one holds as to the worthiness of the defective class to special education, we must all admit that the nervous child, atypical tho he be, is often endowed with superior qualities of mind and is well worth our best efforts to develop the dormant qualities within him.

The early recognition of these children is of paramount importance. Their deviations from the normal may be already recognized in the kindergarten years. With proper training, education and environment, there can be developed in very many of them qualities of intellectual superiority. Indeed, some of our best minds—those that have contributed to the world's work along artistic and even more constructive lines, have shown early mental deviation. Among these children we find many of the so-called "misunderstood." As educators it is of the highest importance that we learn their individual peculiarities; that we ourselves endeavor to understand them. These children are often highly imaginative; sometimes their imagination being in no sense constructive. In others, however, we see the imaginative form that leads to true constructive work; they are frequently, in a general sense, neurotic; are given to day dreaming; are sometimes the

victims of that form of "castle-building" known as "the continuous story." This is a form of fanciful imagination in which the individual lives in a representative life, the events going on from day to day and, in his leisure moments, he takes up the thread of the fanciful existence. This form of day dreaming is not infrequent in neurotic children and leads to perverted methods of thought and lack of concentrative power in the ordinary things of life. The nervous child is likely to lack power of concentration. He is highly emotional; hypersensitive; is often not well poised; tho lacking in certain elementary faculties of understanding and simple judgment, the same child may show at times remarkable powers of argumentation, with flights of understanding and original thought. Most significant in these cases is the variability of the mood and mental content. The atypical child is not likely to be a good comrade, social and easy with his playmates. He often does not fit well with children of his own years. This frequently makes his younger years difficult and tends to intensify a high degree of emotional sensitivity. Many of these children cling with an abnormal affection to the mother; the feeling is not pure, unselfish love, but in its very intensity is tinged with an indefinite fear of other associates. There are certain physical features, too, that distinguish some of these children. They are often of delicate mold; there is a certain indefinable sadness upon them. Their lack of concentration as well as the uncertainty and instability of will can often be observed in their actions and in their delayed response and understanding. The two latter defects are really only part of the same psychological deflection that is at the bottom of the general condition. There is usually a perceptible degree of anæmia, of rapid exhaustion usually manifested by a rapid relaxation of the muscles about the eye, giving the appearance of dark circles. There is likely to be some evidence of want of strong character in the anatomical outlines. The features of a rapid brain exhaustion as seen upon slight efforts at concentration are observed daily by every teacher. This is due in some instances to a true anæmia of the cerebral centers and in others to the fact that many atypical children really do not think properly, do not know how to reach conclusions; perception and particularly apperception are affected. The teacher and parent must appreciate that the child may be mentally astigmatic, so to speak, and as a consequence has not the manner of mentally getting at things. In many cases certain centers within the brain are abnormally developed while others are retarded; again, the retardation or defect may be in the development of the association centers of the brain. Thus the child gets his percepts and particularly his concepts at an improper angle and the normal, clear, psychological attitude is upset. The importance of an understanding of this is manifest. These children often really work harder, spend unnecessary energy in small mental tasks and thus become easily depleted. If this condition is permitted to continue a foundation is laid for more serious mental disturbance and, in some cases, has really been the basis for

final mental dethronement. I have observed among this class of children special endowments in the arts, in music, and in histrionic ability, tho a manifest lack of efficiency in small, practical things. Perhaps the "idiosavants"are in this class. I have in mind a case of a young woman who holds the chair of literature in a well-known university, yet who is absolutely and entirely lacking in ability to do the simplest sums; further than that, her conception of mathematics and numbers is entirely lacking. Her deficiency in this respect approaches, psychologically speaking, a state of idiocy. To have attempted to make a mathematician of her would have been waste of effort and have marred her life and destroyed her usefulness. It seems as tho the unusual talents of some children, at times approaching genius, are developed both psychologically and with reference to the cerebral representation, at the expense of other simple processes of brain action. The importance of an appreciation of this is of vast import in relation to the pedagogic, social, and environmental conditions of the atypical child. Because of the biological variations in the development of the higher cerebral centers, causing divergent variations in the development of these children, we have the very widest range of defects and must consider the individual as such. Thus the teacher will be more guarded in judging which are the so-called bright children in contradistinction to those that appear dull ones. Again, do not forget that the development of certain brain centers or associative tracts of nerve fibers connecting these centers may be retarded; that in some children, in later years, may come the psychological development. In these cases proper teaching is important. It often requires the expert to recognize these cases.

We are indebted to Dr. M. P. E. Groszmann, educational director of the National Association for the Study of Exceptional Children, for excellent observations and study of various types of atypical children. Dr. Groszmann emphasizes the importance of differentiation between the child with arrested cerebral growth and the one with retarded cerebral development.

My clinical observation confirms the importance of this differentiation. Retardation of the development of mental power may be due either to a general anæmia, that is, faulty nutrition of the entire body structure, or, again, to a retarded biological growth of the brain. In the case of arrest of development the limit of developmental possibilities is reached and comparatively little can be accomplished. These children of arrested development often show recognized brain lesions; perhaps some form of paralysis, some evidence of defective physical growth, some congenital anomaly of structure due to cranial injury or defect; as a result of this congenital or acquired lesion of the central nervous system, the higher cerebral centers have also suffered. The manner of education in the two classes is so different that early differentiation is most important. It is essential that the physician, the teacher, and the parents understand the biological foundation for the difference between the child that is atypical in the sense that I have

endeavored to describe, who needs mental training and development along special lines, and the child whose cerebral development is retarded and, again, the child whose mental development has reached its final stage. Thus, we really have three classes. Environment and education will do much for the first two; the third will often require strictly institutional care.

In considering the importance of environment and education upon the human being, particularly in his earliest years, there looms large and ominous before us the specter of heredity. The relative importance of heredity and environment has been a source of contention among thoughtful minds for centuries. We have the extremist on the two sides of the question and those who take the middle view. Far be it from me to minimize the influence of ancestral forces, the inherent impulses that are handed down from one to another; to deny absolutely the influence of heredity is to refuse to accept what has been proved to be a biological fact. The transmission of physical features is, of course, conceded, and I am one of those who are strongly inclined to accept the transmission of mental characteristics. On the other hand, I concede to education and environment powerful influence in directing and changing inherent tendencies. I am a believer in the reforming influence of the human will. Upon the question of the relative import of heredity and of education and environment rests the structure of our educational methods affecting particularly the atypical child. Bernard Shaw's statement—"The vilest abortionist is he who attempts to mold the character of a child" is open to challenge. I believe that human life can really be built up from without; that it is possible, by means of proper environment and education, to form the character and direct the life-activity of the individual. I believe that the individual does not bring into the world, as in a mold, his character, his interests, his entire disposition, but that these, in the plastic years of developmental life may be brought out, changed, and directed if we can but obtain the co-operation of the subject's will. I concede much to the raw material, but I maintain that character and intellect are fostered by home environment, by good schools, and, where necessary, by well-equipped institutions. As Ritchie says: "Civilization is the sum of those contrivances which enable the human being to advance independently of heredity in the biological sense." And again, as has been somewhere said by another, "The progress which mankind is making is due to the lessons of life and not to the mysterious potencies of primordial germs." Even Darwin, the greatest exponent of natural selection, concedes that the moral qualities are developed finally rather thru reasoning power, religious feelings, etc., than thru hereditary factors as determined by natural selection. Indeed, "The mental and moral faculties of man," as Wundt says, "know no law of conservation, becoming more and more complicated and augmented without limitation." These are encouraging thoughts for educators.

I am so firmly a believer in the potential energy of hereditary forces that

I would restrict indiscriminate union because of its influence upon progeny, and I firmly believe in the enactment of laws restricting the union of the unfit. I feel there is no stronger plank in the foundation of human happiness than that which would prevent sexual union of those who are mentally or physically manifestly abnormal. However, we are dealing with conditions as they are, not as we wish them; until science and education shall have demonstrated fundamental laws of heredity we must combat ignorance by the forces of environment and education operating upon the offspring.

Defective and improper environment in early life, particularly when added to hereditary predisposition so often present in the case of atypical children, is a primary cause of neurasthenia and nervous breakdown; in the case of impressionable, unstable children, it develops irregularities of character that disturb and retard the moral, intellectual, and physical energies. In the plastic years of life the home and school teaching should be along lines that by example and theory develop firm will and clear thought—positive action without vacillation. The importance of surroundings upon the ethical side of the atypical, the impressionable, the unstable child, is emphasized by a study of social life in its relation to juvenile delinquents. The inherent tendency to sexual perversion and general moral deflection that characterizes certain forms of highly neurotic children is common observation. There is in some moral astigmatism, rather than intellectual defect, and upon proper training and precept will their future depend. The moral pervert is the type of atypical child that often requires most skillful treatment. Intellectually endowed tho he be, moral imbecile or moral anomaly as he often is, he represents in early days the man who in later life attains temporary honor socially and financially, sooner or later startling the community as a fallen idol, the victim of inherent moral obliquity. Here again the watchful teacher and parent should recognize in early life the warning signs that demand the exercise of judgment and firmness; the bending twig must be straightened and set in the line of proper growth before it becomes a branch unyielding in its textural firmness.

A study of the history of juvenile delinquents, especially in this country and in England, leads to the conclusion that the juvenile delinquent is really somewhat intellectually inferior to boys of his own age, but that the actual number of feeble-minded among them is small, that mental inferiority is apparent rather than real, and that this inferiority is not congenital, but acquired by lack of training and by vicious environment. Further, a very marked improvement has been observed in the young delinquents while under the régime of reformatory discipline and in active industrial or shop work. A large percentage have shown a high average of artistic ability. Doubtless in each case a proper psychological analysis would show the absence of some quality necessary for successful pursuit; and I am certain this defect could be largely influenced by training. The absence of

physical defect in a large percentage of juvenile delinquents speaks for acquired rather than hereditary forces. The teacher of atypical children especially must be familiar with individual psychological defects and for this the normal mental processes must be understood. In the case of the atypical child, not in the quantity of mental material forced upon it, but rather in the quality and method of thought imposed upon the child, will we find the success of effort. For the atypical child especially I disapprove of the so-called "central ethical" idea method, that is, the grouping of all subjects for a period of time about a nucleus or idea. This Herbart-Zeller method is far inferior to that advocated by Dr. M. P. E. Groszmann. Groszmann's work on *Elementary Education*, soon to appear, succinctly conveys the psychological procedure. Thru primitive percepts and concepts, the association and assimilation of these as interpreted thru apperception by what the child has already properly learned, is the method by which it must add to its mental storehouse. The new percept and concept must mean a consciousness of more than that which the object itself gives; the child must be taught that new impressions must be associated and seen in the light of similar ideas already present. As Groszmann says, it is evident that the logical relation of the details of the subject-matter will enable us to make application of a general rule; in this way we may establish an instructional interrelation of topics, introducing new ones by establishing apperceptive associations with those which existed before. In order to establish this effectually, teachers will be obliged to ascertain the mental status of children intrusted to their care, the extent and character of the concepts already forming their intellectual possessions and determining their emotional attitude. There are other factors to be observed, such as the reaction time, power of inhibition, fatigue limit, etc., of each individual child. Groszmann has thus a far wider and more truly psychological method than that of correlation simply, as expressed by the Herbart school. It is just in cases of atypical children that we see the want of proper association of co-ordinate mental activity. I can even go farther and see the development of certain forms of mental derangement in later juvenile life in improper methods of thought and learning. Children must learn to relate details to common groups so as to enable them to establish a conceptual order in the wilderness and embarrassing multitude of details and thus to recognize "old friends in new setting." Unless this be done he may have to learn anew about the same geometrical form in the workshop which had become familiar to him as an element of his mathematical study or he will not recognize in the construction of a stove an application of the same law which he had studied in his physical laboratory as governing radiation and distribution of heat. I believe that in a simple way these psychological laws can already be applied in the kindergarten. It is a question whether instead of teaching the nervous child with his basic psychological defects small basket and weaving work, it would not be better to give him work

more mental in character. Further, I believe these fine movements, demanding fine adjustment of the eye muscles as well as the extremities, tend to develop spasmodic, chorea-form movements.

In conclusion, I have only to emphasize the vital importance of physical hygiene, especially upon neurotic children; the desirability of suburban life, regular hours, instructive games and outdoor sports that interest but do not excite the unstable mind. The body, like the mind of nervous children, becomes more easily fatigued; neurotic children, like nervous adults, find a restful invigoration and a feeling of calm in the quiet of suburban life. It is important that the hygiene of the nervous child be such as to secure the highest physical nutrition for this includes nourishment for the intricate centers of activity within the brain. Nervous children react especially to emotional stimuli such as music, sensational drama, and romantic literature, and all these should be guarded against. Children who have plenty of fresh air and an abundance of exercise and physical and mental freedom, become better poised and are less likely to succumb to inherent perverse moral and sexual instincts.

Many phases of the social question, the struggle of woman and her place in social, economic life, her position in the home, the great stress which the parent is obliged to undergo for existence in the large cities—these questions have a direct bearing upon the environment of the child. The general moral and intellectual atmosphere of the home has an important influence upon the nervous child, especially since those of the neurotic type are keenly sensitive to unhappy home conditions. Overpowering obsessions, morbid fears, sexual perversions, frequently find origin in the atmosphere of a home with unhealthy moral, physical, and social hygiene. Self-control on the part of the parents, with an intelligent display of affection and judicious sympathy, together with high ethical ideals in daily life, are examples that stand out in relief in representative education. Remember that the nervous child is already predisposed to such disorders as St. Vitus dance, speech-defects, nervous twitchings, habit spasms, and these may find their origin in a sudden emotional disturbance caused by fright, fear, or any form of mental shock. We must endeavor to reduce to a minimum the inherent tendencies that tend to destroy the proper mental balance and endeavor in every way to bring the child's supply of nerve force to the highest plane of resistance. Develop his will and, when necessary, raise the child's estimate of himself.

Time and space limit me to a mere outline in a plea for special attention to the exceptional child; remember he does not belong to the defectives.

THE NATIONAL CHILD WELFARE CONFERENCE: ITS WORK AND ITS RELATIONS TO CHILD STUDY

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Child study has now so many departments—medical, hygienic, criminological, legal, religious, pedagogic, linguistic, social, and the rest—its literature is so vast, and the academic chairs and journals and sciences devoted to it are so numerous, that no one can master all its fields. Specialization in it is already well advanced. It has a great and growing influence upon education and the list of reforms in method, matter, buildings, hour-plans, textbooks, and ideals that now stands to its credit, is a long and noble one. Indeed, it is not too much today to say that in every educational problem he who tells us authoritatively what the nature of the child requires speaks the final word. Nothing in the history of education has contributed so much to make teaching professional and scientific. Profound as all this influence has been, it has been from the start silent and spontaneous. Now, however, we are organizing a more active and aggressive campaign to extend the application of its results and its influence outside the school proper to the thousands of child-welfare institutions which Dr. Theodate L. Smith, of Clark University, has tried to classify into eighty or ninety species, of which the following ten are the genera, viz., institutions for defectives, delinquents, dependents, those that deal with health and disease, morals and religion, protection, recreation, sex, motherhood and eugenics, and general. Our Child Welfare Conference which held its second annual five-day meeting last week aims to unite all these into a national organization in order to secure the same advantages of co-operation, avoidance of duplication, the closing of gaps, enhanced efficiency, etc., that the Associated Charities have gained by co-ordinating local relief work. Our program is first local, to bring all child-welfare agencies outside the school in each city together so that they may know each other's work, catch each other's spirit, profit by each other's experience, and impress the community more strongly. We wish then to effect state, and last of all, a national organization of organizations with perhaps a head or a central bureau at Washington, for the conservation of American Childhood, which is the most precious of all our national resources and indeed of all earthly treasures. This federal bureau ought ultimately to be represented in the President's cabinet and rank with the departments of state, agriculture, the navy and the rest, and should eventually include education as well as all the agencies connected with child labor, hygiene, relief, delinquency, juvenile courts, and all the other above-mentioned scores of organized interests of the rising generation, always including eugenics. The practical ends aimed at are the following:

I. All social workers and all heads of institutions caring for dependent or delinquent children and their helpers should have special training for

their work. Child philanthropists, too, need to know children better and draw upon all this fund of paidology. The work of all these institutions could be better done and every dollar contributed by patrons would have enhanced value by training of this sort. There are no more devoted friends of children than they, but to the high virtue that prompts their work they should now add science for the sake of the children, not to mention their own interests. Slogan I. No worker for exceptional children untrained for his or her work.

II. From 1 to 3 per cent. of the children of the land, hundreds of thousands in number, who are defective, dependent, or delinquent should be studied. We now spend nearly $100,000,000 yearly upon classes of the population, old and young, that are a fearful drag upon the advancement of civilization. If a new pestilence were to break out that did damage of this magnitude, we should turn every available agency to the work of investigating causes and cures and should not be content with merely ameliorating present conditions. This last field of observation is now very inadequately utilized for the permanent lightening of this heavy national burden. Experts in every such institution should work together systematically to draw lessons from this field, so ripe in harvest, and where the scientific wastage is too incalculable. The end should be prevention even more than cure. Every child publicly cared for should be systematically tested, his hereditary and personal history laid under tribute for the good of others and for that of science. This work, too, is already well begun in certain favored localities. Slogan II. No exceptional child unstudied—each must teach us all the lessons in it.

III. In every institution for the training of teachers, some special course should be given in order that they may get and keep in touch with every child-welfare agency outside the school in their community. We urge, too, that all upper-grade pupils be informed of the work for dependent, delinquent, and defective classes in their vicinity as part of their education for citizenship and also that every teacher of child study and every pedagogical department in normal schools, colleges, and universities conduct extension work in this field and make systematic surveys of all child-helping agencies about them with the double purpose of learning and helping. We have found it profitable to assign topics in this field for thesis work and also to organize a series of committees of citizens to advance local playgrounds, promote better probation work, improve the milk supply for babies during the fatal hot months, to promote school gardens, vocational training to help dependents and the neglected school hygiene, theaters, festivals, recreations, etc. It is to this great and new task to which we students of children feel called and are now applying ourselves that we invite your good will and if possible, your active co-operation in your several fields of labor. We believe the time has come to unite on the one hand all experts in paidology and practical agencies, to put what we know to work and to utilize children in institutions

in every way for our science, which now has so much to say not only on juvenile vice and crime and pediatrics, on nursing, feeding, and dress of infants and children, their contagious diseases, games, habituation, vocations, social activities, adolescence, the psychology of poverty, criminal legislation, the child's relation to nature and to the city, on arrested development, truancy, gymnasia, bathing, prostitution, story-telling, but even has something new and great to tell concerning wedlock and race suicide. So our third slogan is: Teach this applied child study everywhere from the high grammar grades up, put it to work for the charities, as college and university extension work.

Let me now tab off a few of the specific contributions which the larger child study has made toward better knowledge and treatment of some of these classes, altho each of the following points needs a chapter or an hour:

1. No one is qualified to deal with boys in groups who does not know and has not pondered the studies of the gang which constitutes a unique and integral part of genetic social psychology. This the judge of the juvenile court, the probation and truant officers, heads of boys' clubs, or adult improved or controlled organizations of boys for religious, moral, and other ends, and those interested in school self-government should know by heart. A large fraction of all juvenile delinquencies are due to the gang spirit which is of course that of the savage tribe. The reformer here has succeeded in proportion as he knows enough to become a true member and leader of the gang, for even members of such organizations as the Junior Endeavorers, Knights of King Arthur, etc., are in boy language members of God's gang, or of the church gang. Gang psychology is the master key to juvenile crime.

2. Purity workers of all kinds must know the genetic psychology of sex or they can never cope with the gigantic evil of vice of which this is the key. Would that I had time to point out the positive injury done by well-meaning ignorance here, the harm done by those who strive to help. Nowhere have our ideas undergone such sudden enlargement and transformation in recent years as in this domain concerning the age of greatest danger, the predisposing and active causes, the modes of cure, the nature and consequences of error, etc. We can now detect several of the roots of sex aberration in the infant in arms and a group of others in the child before school age. We know, thanks to the Freud School, the peculiar and hitherto unsuspected vulnerability of the years from eight to ten. We can appreciate the great significance of physiological age. We know from special studies something of the magnitude of this generally hidden evil in school and college and our ideas of self-abuse and of gonorrhea have undergone great change, while the effects of the social evil and the methods of moral prophylaxis are now revealed in a new light. Here lie the roots of nearly all the psychoses of later life and of many of the elements that Emmanuelists and mind-curists have reached. The time is at hand when these topics and eugenics will be

taught in the schools, but here, if anywhere, every worker must have special training and should earn a certificate before being permitted to enter this field.

3. The nature of the transforming era of adolescence, as it is now understood, is changing our ideas and methods of education at this age in home, school, and church and in all special and private institutions for exceptional youth. Over the door of every such institution should be written, "Let not him or her who knows not the laws and facts of adolescence enter here." It is in many respects the most plastic and vulnerable of all ages, easiest helped by those who know it and easiest harmed by those who know it not. How harmful the moral or physical trainer, or the Sunday-school teacher of youth who does not understand it, and what a blessing are those true shepherds who can penetrate to the secret soul of the budding girl or the boy in the awkward age!

4. At least 1 per cent., or some one hundred and seventy thousand American children of school age, are subnormal or in some way arrested, altho only a small percentage of these come into institutions. I need only refer to the clinical work for this class lately done by Witmer at Philadelphia, Goddard at Vineland, Healey and Macmillan at Chicago, Chase and O'Connor at Clark, and others in this country. Their achievements constitute one of the most brilliant chapters of psychology applied with the most beneficent practical results. Here we have an almost ideal relation. These children are being studied more thoroly than any other class ever were and they are adding much to our knowledge so that they are at the same time material for research and are being helped themselves by being segregated in special classes or schools and given the special individual care they need. Standards of ability, physical and mental, are being established for each age, on which we can grade subnormality, and a wealth of data for heredity is also being slowly accumulated. Thus, it is no longer sufficient to herd and care for these unfortunates. Each such child is a class by himself and must be specifically studied by the expert methods now being evolved; and nowhere has pedagogic genius and inventiveness accomplished better results.

5. Again, take playgrounds, games, and toys. How grossly ignorant and negligent we were a few years ago until various studies of childhood showed that in play children both practice and train themselves for future vocations and what is still more important, are rehearsing many, if not most, of the practical activities and vocations of the race thru its ancient phyletic history! So, in right play-teaching we are working in the very depths and not in the shallows of the soul. Thus we woke up to the fact that many city children did not know half a dozen of the scores or hundreds of plays and games they should and had no place to play in. We realized that if the boy without a playground did not make the man without the job, he was at any rate dwarfed and distorted, if not a half-evolved being. The

present magnificent playground movement is a direct product of the better knowledge of the nature and needs of the child. With what we are now learning of the psychology of toys, it is easy to predict a new dispensation impending in this field too, when play material shall come to its rights.

6. The work of the Story-Tellers' League, library and other story-telling represent a contemporary revival of the antique method of education which was universal, for once all education was story-telling. Here pedagogic psychology has much to teach that would render this work more effective and intelligent concerning not only the history of the art from the Homeridæ down, the nature of tradition, the advantages of oral-ear over the later long-circuited tract of the eye that reads and the hand that writes, but its best and surest teachings concern the nature of the story material and the kind of tale that knits up the very brain itself into a better-organized unity. Concerning the most vital point of matter, the modern story-teller is usually singularly and pathetically astray. While children do not want a tale with a too direct or obvious moral, every story should bear essentially upon conduct and form sentiment. It should be an instrument and every story-teller should be able to stand and answer as to what he expects to do and to accomplish with each tale. The school canon of stories should include only the best classics, standard works which introduce the child into the very best things in Greek, mediæval, and other material which have shaped the masterpieces of literature, the tales of Troy, of the Greek dramatists, of Reynard the Fox and animal legends, the Niebelungen and Arthuriad groups, the wandering Jew, Bible, some of Shakespeare, etc. Story-tellers are too prone to strive for entertainment only and be content to amuse, to have little idea of real edification or even what it means; and here the natural corrective lies in the history of their art and in the better knowledge of the nature of childhood. Until this reform is effected, story-telling will never take the place it deserves in our educational system.

7. The big-brother movement is in great need of pedagogic psychogenetic explication. Its history and its motivation date back to Plato who held that it was a shame to any boy not to have an older mentor, hero, inspirer, and that it was a disgrace to a young man not to make himself a special ideal or spiritual father of a younger boy. This principle has a long history from the apprenticeship to the fatherland to apprenticeship to a trade. It has other outcrops in a system of the personal advisers lately in use in many high schools and colleges of this country, in the ancient method of fagging, or initiation, of the control and hazing of freshmen and all the manifold monitorial care of younger by older children and youth. Indeed, this is one of the ideal types of friendship and prompts the mentor to always be at his best as a pattern-setter to his ward. As a godfather or guardian, or quasi- or supplementary parent to boys or girls, older youth are themselves given great and new reinforcements to mental and moral progress.

8. At the opposite extreme, we have the psychology of orphans which

shows what fatherhood and motherhood mean by their loss, and here belong sad lessons of parental cruelty and abuse, the effects of disharmony between the parents and divorce, also the effects of institutionalization compared with the placing-out system. Defective parenthood has many outcrops from inability and unwillingness to nurse, which is absolutely necessary to complete motherhood and the failure to do which always involves other parental defects, to the problem of the duties of unwed mothers toward their children and the problem of foundling asylums with their fearful mortality. Shall we rehabilitate these unfortunate mothers at the expense of their children, or shall we teach them to face the shame, retain their children, and develop them and themselves? Shall our agency content itself with trying to secure marriage or support from the fathers? Upon all these problems genetic psychology has distinct new light to shed which will make every agency here more effective.

This list of things genetic psychology is now able and willing to do for child workers might be greatly extended were there time, and this survey is of course extremely inadequate.

But let me in closing touch more briefly a few of the challenging questions now put up to the psychologist by the practical workers in fields where we have more to learn from them than to teach them, to some of which problems we are still, tho not to our credit, rather dumb. Here it behooves us to listen, ponder, go to work and feel ourselves put on our mettle and more or less at fault till we can say some authoritative word. For instance, how shall we treat young girls in reformatories who have gone wrong and are so prone to relapse to vice as soon as they get out? Our present methods are inadequate and radical reconstructions are now needed for this very unique class to whose nature and needs we cannot reason from another class. We want to make these studies and to send our experts to these institutions. Again, how shall we balance up the pros and cons between those who would raise the age of consent and those who deem it already in many places too high? Once more, child labor has its advantages as well as its abuses. How shall we foot up this account for different industries, ages, communities, social classes, etc. Again, what shall we do for high-grade idiot girls who can just support themselves outside institutions but are prone to be the victims of scoundrels and mothers of human spawn of degenerates? Shall we keep them always sequestered or tubo-ligature them and let them loose, or what? And the same in modified terms for young male imbeciles of this grade. Again, how can we reconstruct the juvenile court, the success of which as at present organized seems now hanging in the balance, for it is in most places too much like an adult tribunal with sworn witnesses, publicity, jury, habeas corpus, appeal, when it should be based on pure equity principles and so organized that it can work well as a system and without being so dependent on the personality of the judge, who of course ought to be an ideal father for all the delinquent boys in his bailiwick, altho this

requires a supply of genius which we cannot rely upon? Again, how can we eliminate the evils of the placing-out system which has spread so fast and far that, altho statistical data concerning its success are lacking, we are beginning to hear serious reports of its evils in the way of spreading moral infection and of manifold bad relations between adopted and natural children? What are the facts about the appalling mortality and morbidity of foundling asylums and how can both be reduced? How can we extend the educative influence of moving pictures which have greater pedagogic possibilities than any invention since printing and how can we reduce their present dangers to eyes and morals? But such questions are legion and I must close. Here child psychology has a vast and to a great extent newly opened field for applying what it knows and for learning more, and here all child helpers can greatly increase the intelligence and the efficacy of their work by coming in contact with the rich store of facts and principles for which this section stands and which we in a sense hold in trust as its custodians. Here we must have a new and vital bond between knowing and doing, for the two in many fields are yet sadly isolated. The National Child Welfare Conference is a forum where genetic psychologists work for the exceptional child, get together and put mutual questions, report results and pool their knowledge for mutual benefit. Our motto always is that the cause of the child is the most precious of all the world's causes because it controls the future.

HOW EVERY SCHOOL MAY BE A CHILD WELFARE CONFERENCE

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(Synopsis)

Out-of-school conferences on child welfare can be successful only as they effect conferences on child welfare within the school and between school teachers and parents.

Because the majority of our twenty million school children are in small cities and rural districts, they are certain not to be fundamentally benefited by any conference that does not center in the schools. The same energy which an outside agency will spend in getting data for one thousand children, will interest one thousand principals in securing more complete data for five hundred thousand children.

The teacher whose pupils present to her one hundred and ninety days each year the best index of how thirty to fifty families live, can accomplish more than an out-of-school conference where one hundred and ninety people listen to a lecture and adjourn to meet again another day.

In New York City there are two hundred and thirty members of local school boards charged with the duty to learn about school progress, sanitary

conditions, and teaching efficiency of schools which are supposed to minister to nearly eight hundred thousand children. Systematically for years effort has been made to prevent these local board members from knowing the essential facts about school progress and school problems. Snubbed and almost reviled, this asset has been lost to New York City, tho potentially more valuable than any national conference. As a consequence no one can tell the parents of New York why two hundred thousand children have failed of promotion this school year, why there is a difference of one hundred thousand between net enrollment and average register, whether the part-time day, which New York City is spending millions to abolish, is better for the child than the full-time day, or why public imagination and sense of duty are focused upon giving out-of-door fresh air to a handful of children while neglecting to consider physical and mental breakdown, due to lack of out-of-door fresh air for hundreds of thousands.

To make every school a child-welfare conference, the supreme need at the present time is a demand on the part of the national and state bureaus of education for essential information as to the welfare of each teacher's pupils.

THE HYGIENE OF INSTRUCTION

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To most people school hygiene means the technique of heating, lighting, and ventilation, statistics in regard to children's defects and school diseases, and dry details in regard to seats, desks, and the like. School hygiene does have to do with all this, but with much more besides. In recent years a new field called the hygiene of instruction has been developed. It is based upon child psychology and mental hygiene. From this newer point of view school hygiene is positive rather than negative, and every subject of instruction, every educational principle, and every method of teaching is studied with regard to its effect upon physical and mental health.

We often hear it said among teachers that the great aim of education is to teach children to think, and in pedagogical literature we are beset with exhortations to make our pupils think. But how is it possible to keep them from thinking? Try your best and you cannot do it, except perhaps by one method, namely, by trying to make them think. The really important question is how pupils think and what they think about. The aim of education is to train pupils to think clearly, to think with ordinary associations, and to develop permanent interests and habits of attention. The aim of hygiene is much the same, and the hygiene of instruction maintains that the development of such habits is of vital importance to health.

All this has been strongly emphasized in recent years by the studies of psychiatry. In our hospitals and sanitariums there are multitudes of patients suffering from hysteria, neurasthenia, and like disorders, which

often can be cured only by a process of education. The modern alienist, the expert in such disorders, resorts to re-education as the best method of treatment. He develops habits of attention, permanent interests in healthful activities, self-control, habits of orderly association and of normal reaction to feeling, and the like; and the degree of his success is measured by the degree in which he succeeds in this mental and moral education. Now a moment's reflection reminds us that most of these sufferers from nervous and mental disorder were a few years ago pupils in our schools, and precisely these habits of attention and the rest are quite as important for preventing mental disorder as in the cure of such disorder. A better hygiene of instruction in the schools would have saved large numbers of these patients from the sanitarium and the hospital for the insane.

The aim of the hygiene of instruction in a single word, then, is to develop balance, control, normal expression of feeling, healthful interests, which are the means of self-control, attention and orderly association and freedom from confusion, interference of association, conflict and repression of normal reactions, and straightforward thinking and acting which are the safeguard and guaranty of mental health.

Now all this is delightfully vague. These are platitudes, you will say. Very true! But they contain the gold of wisdom tried a thousand times. Let us see if we can apply these principles concretely. In the ordinary school work there is a good deal of inattention, lack of control, mental confusion, worry. But if we observe the play-activities of children we find it is different. The children are attentive; they think clearly; and usually, except when in a highly organized group game they get rattled, they exhibit self-control. In a word we find in the child's spontaneous play a splendid illustration of normal mental activity. The same is true of the child's spontaneous motor activity in general. The attention, too, in a class in manual training as compared with the inattention in the ordinary scholastic class was long ago noted.

It is not for hygiene to say what subjects should be taught in the school; but when in any subject it is impossible to get that attention, and control, and orderly association of ideas that is possible in play and the various forms of manual and industrial education, then hygiene maintains that something is wrong; for bad habits of mental activity are being formed.

Again, the hygiene of instruction already has something to say about the method and content of instruction. Its teaching is based on experimental studies of memory. Many psychological investigations in regard to the associations of children have now been made. These are important because an association experiment is really a short question under laboratory conditions; and the answers give such a picture of the contents of an individual's mind that such experiments have already been used to diagnose mental disease and to detect crime. The method is familiar. A word is pronounced by the experimenter. The subject mentions immediately the

first word he thinks of; and the time from stimulus word to reaction is measured. The results of such experiments by Meumann and others show certain noteworthy differences between children and adults.

The first important difference between the reproductions of the child and those of the adult is that in the case of the child the association reaction time is much longer than in the case of the adult. This difference is so astonishing, says Meumann, that the experimenter often thinks that the reproduction is not taking its normal course, especially when difficult tasks are presented by the experimenter, but after a time the experimenter becomes convinced that these long reproduction times are typical of the child mind. In the case of the adult a free reproduction to a stimulus word occurs on an average in about four-tenths of a second if the association is a very fluent one, and from one to two seconds when it is a difficult one. In the case of children, on the other hand, the reproduction time is not infrequently from five to ten seconds.[1] And further, the shorter the reaction time, the less valuable is likely to be the associated word or the answer. The practical inference is obvious. The questions that teachers ask are association experiments altho without controlled conditions. The prevailing custom of teachers to require pupils to answer as quickly as possible is in large degree a demand for what is impossible for children. So far as it is possible, it is likely to defeat the very end of instruction; for the answer is likely to be worthless. From the point of view of hygiene it may result in confusion.

Again according to the investigations of Ziehen and Meumann, there is a striking difference between the kind of ideas that the child reproduces and those which the adult reproduces. The child thinks more in individual, concrete ideas than the adult. In the case of the latter, individual ideas are seldom reproduced. Meumann in many thousand reproduction experiments with adults has found very few such, often only 5 to 6 per cent. in the case of a subject. The adult understands the stimulus word as a rule as a universal and abstract word and he passes over to universal or abstract word meanings. It is quite different with the child. He understands the stimulus word as a concrete individual idea.

It is a striking fact also that in the case of the more talented children at the age of six to twelve or thirteen there is a greater preponderance of the individual ideas than there is in the case of children of the same age of weak ability. If in a school class there are both intelligent and dull children, and they are tested by the reproduction method, the unintelligent children, the dull children, show more abstract associations than the bright. This result seems to emphasize the danger of premature development of the adult type. Such maturity is usually connected with intellectual inferiority. Thus Meumann concludes. As Meumann sums up the results, the whole ideation of the child is totally different from that of the adult in this respect, that it is

[1] Meumann, Vol. I, p. 228.

well established physiologically and pedagogically that a child should remain as long as possible in the stage of concrete individual ideas. He by this means acquires a great store of concrete perceptual ideas on which later he can build his abstractions; and the greater the store of concrete ideas, the more accurately and more securely the ideas presented are assimilated, the better and sharper will be the abstract word-meaning later.[1]

The child's exasperating memory for concrete and often apparently unessential facts is usually normal. The teacher's emphasis upon abstract relations is often wrong. Thus hygiene reviews all the methods and means of instruction with a view to avoiding premature or arrested development, mental confusion, and bad habitual thought.

Hygiene has made extended study of fatigue. It is a long story that I must not try to tell here; but, while recent studies indicate that within certain limits the power to resist fatigue can be increased, that even an active immunity to the toxic products of fatigue can perhaps be acquired, when fatigue produces bad thinking, something is wrong with the work, or the air, or the temperature, or with the teacher, or the pupil, or the surroundings, and if inattention is unavoidable it may be well to stop work altogether. This has been recognized in a degree by practical pedagogy, even to the extent of school closure. Take, for example, the spring vacation. Why should we have a vacation in the spring? Well, first of all, certain investigations by Lobsien indicate that the physical energy is at low ebb in March and April, and that there is a depression in the curve of psychic energy in April. One of our best neurologists has suggested that this may be the result of an old biological rhythm; but pedagogy knows very little about biological rhythms. The school was closed in the spring probably rather because of church festivals and interruption of school work, and the unavoidable mental confusion, or mind wandering, if you please, at this season. There are, as every teacher knows, many distractions at this period—some physical, some psychic, and others ecclesiastical, industrial, social, and amatory.

Modern studies show that there are certain more common but less obvious evils liable to occur in school instruction. There are certain secondary effects of instruction, certain by-products, to use the language of industry, which are often important. Pedagogy gives special attention to the primary results of instruction; hygiene studies also the secondary effects.

In arithmetic, for example, we have many illustrations of these secondary effects of instruction. There are the tricks of thought, the mental automatisms, which may result from the premature or undue use of certain methods and devices. Dr. Triplett has studied these among normal-school students. Among cases reported are the following:

One girl who was taught to add and subtract by the aid of an abacus says: "For several years it was impossible for me to get away from those red and green balls, and to this day I scarcely add a column without recalling them unconsciously."

[1] Meumann, Vol. I, pp. 225–26.

Another learned the digits by fitting together sliced birds and now always sees them in the old connection. Some write at one side the figure to be carried or make the corresponding number of marks. The "borrow and pay back" method of subtraction often persists thru the years. One student in adding counts on to the number the prongs of the three or four. When paying close attention to a subject another finds herself running up the scale of numbers by twos, threes, or tens. Another writes one, two, three, four continually. Another writes dollar signs by the hundreds. Instead of the different digits some visualize corresponding groups of dots. One says, "I always see the picture of the number on my fingers. When recalling a number, as 352, for example, I see the first three fingers, then the whole hand, and then the first two." Some see the problem being worked out on a mental blackboard. Others note the set of mind given them by years of working for the answer, also the effect of using a rule not understood. Students who learned the multiplication table in concert report being compelled to start at the beginning and go to the combination desired.

The apperceptive bent given the mental reactions by continued drill in a subject is well illustrated in the case of a six-year-old child [mentioned by Dr. Triplett] who was being pushed in his number work by a teacher desiring his promotion. "Mamma," he remarked one day, "I am getting so that when I ride or walk in the street I see the combinations in the windows of the houses we pass."

Such automatisms represent often not only so much mental ballast, but often also interference of association and sometimes the germs of pathological neuroses.

Again the teacher is apt to desire above all things speed and accuracy in arithmetical work. Hygiene notes the secondary results of the drill in speed and accuracy. These results are sometimes seriously unfortunate. The following concrete illustration is instructive:

I remember [writes Miss Bradford, a teacher] a primary class that was once brought into a meeting of the teachers of a certain Wisconsin city. The superintendent's purpose was to illustrate the wonderful perfection in "speed and accuracy" to which the teacher had brought her class. Long examples in addition were dictated to the children, written on the blackboard, and computed. There was one boy who attracted particular attention. He showed the high pitch of strain to which he was raised by not being still a moment—a sort of jig being performed while the process of reckoning was going on. He usually came out ahead of the others and excelled in accuracy. I was a high-school teacher long enough there to have this boy come into my classes for his higher mathematics. I found him incapable of thinking in those subjects. My subsequent reading of child-study investigations leads me to believe that that boy was a striking illustration of arrested development, coming from overstimulus, and overtraining in one direction.[1]

Hygiene always looks with grave suspicion upon such cases of arrested development. The attitude of sound pedagogy toward such embodiments of speed and accuracy was expressed by Oliver Wendell Holmes in his *Autocrat of the Breakfast Table.* Commenting on Babbage's calculating machine he wrote:

What a satire, by the way, is that machine on the mere mathematician! A Frankenstein monster, a thing without brains and without heart, too stupid to make a blunder; that turns out results like a corn-sheller, and never grows any wiser or better, tho it grind a thousand bushels of corn.

Here are speed and accuracy!

[1] Mary D. Bradford, "Reasoning in Arithmetic," *The School Century*, Vol. V, No. 5, January 1910, p. 219.

It is the province of pedagogy to decide what shall be the content of the course in arithmetic and what methods and devices shall be employed, as well as what results in this subject may be reasonably expected. But practically the whole attention of teachers seems to be directed to the primary results. They consider solely the methods, the ground covered, the total results in speed and accuracy. The secondary results—the habits of thinking formed, the mental automatisms acquired, the possible arrests of development, and the like—they do not attend to and they cannot see; and often they are innocently and profoundly ignorant of the possibilities of their existence.

School hygiene has no quarrel with arithmetic. It does not object to drill nor to the devotion of a reasonable amount of time to the subject; but it does insist that the obvious dangers to health connected with this study in the case of some children should be duly regarded, and it insists that in all cases the secondary results of the instruction should not be ignored.

Thus in general hygiene looks with grave suspicion upon premature mental development of any kind before there is a sufficient basis of concrete experience.

The hygiene of instruction insists that the aim of school education should be the development of healthful habits of mental activity. It takes up the doctrine long ago taught by ethics and just as the older moralists insisted that in youth are developed those habits which determine character in adult life, so hygiene maintains that in the early years are developed those habits which insure health or ill-health in adult life. And while the habits of healthful physical activity must largely be determined by the home, the healthful habits of mental activity should be determined and may be determined in large part by the school.

Among the concrete suggestions of the hygiene of instruction, then, are the following:

1. The ideal of mental activity in the schools is that illustrated by children in their play and spontaneous motor activity.

2. The association reaction time of children is much longer than that of adults. Do not strive for the quickest possible answer. It is very likely to be worthless.

3. A child's concrete individual memory is usually normal; a memory for abstract terms seems likely to be a mark of premature development and of intellectual inferiority.

4. Hygiene teaches that within certain limits immunity to fatigue can be acquired; but when in the school inattention and interference of association become unavoidable, it advises the teacher to stop and find out the cause.

5. While pedagogy weighs the primary results of instruction, hygiene demands that the secondary results, which are often of grave significance for health, should not be ignored.

DISCUSSION

Dr. G. Stanley Hall, Clark University, Worcester, Mass.—The average teacher is not able to add anything to our knowledge of the child because she is so bound by other duties and routine. Now and then a teacher breaks away and does good things, but the problem is largely one for experts.

Miss Pearl Boggs, professor-elect of education, Nankin, China.—My interest in child welfare arose very largely from the questions which parents and social workers with children were constantly asking in regard to practical matters concerning children for which no answers were to be found in the textbooks of psychology. We need a broader study of all problems relating to childhood, such as the Child Welfare Conference brought together. And let me beg that teachers shall not take school too seriously. After all, the home has the most vital influence because it has the child before the age of six, the most important period from the standpoint of morals and health. The teacher would find half her problems solved if only home conditions were right. Our greatest problem, then, is how to reach the home. In New York instruction is being given to girls in the upper grades of the public schools in the hygiene of the home life. Not all of us teachers, however, are qualified to give such instruction, nor indeed instruction in school hygiene so that singling out this one problem of hygiene from the many welfare problems, let us try to answer the question of how we shall carry out some of the wonderful suggestions received at such meetings as these. I therefore bespeak your hearty co-operation and support for the projected plan of introducing into our normal schools and colleges of education a wider study of hygiene and better methods in its teaching. I think of three great organizations now working for this end and there are doubtless others.

CHILD STUDY AND SCHOOL ORGANIZATION AND ADMINISTRATION

F. E. SPAULDING, SUPERINTENDENT OF SCHOOLS, NEWTON, MASS.

The study of the child—from whatever standpoint and with whatever purpose—always raises this one fundamental issue: the needs, the rights, the welfare of the child, in opposition to all and every antagonistic interest and tendency. In the subject before us, this universal issue formulates itself in this question: Which shall dominate and which shall serve, the tradition and routine, the machinery of school organization and administration, or the highest welfare of the child—not the mythical, abstract, average child, distinguished merely as one child-unit, but the real, concrete, individual child?

Up to the present time, for the most part, that machinery has run on with slight interruption and with but little adjustment to that real individual child's welfare. Child study has influenced the organization and administration of schools much less than it has the attitude and the work of the teacher. This condition is perhaps due mainly to two closely related causes: first, the irresponsiveness of school administrators who are necessarily occupied largely with general problems and principles, and who come little into sympathetic contact with individual children; and second, the lack of much practical aid from the expert, professional students of the child. The pedagogic lessons of most of the many invaluable studies of children are apparently for the teacher—and are urged upon the teacher—rather than on the school administrator. The latter, it is true, is subject to much not wholly just criticism because of the administrative obstacles which he is supposed to place—thoughtlessly, if not even maliciously—in the path of the teacher enthusiastic in pursuit of the ideal.

Both the professional student of children and the teacher animated with the spirit and practicing the lessons of child study are inclined to regard the organization and administration of schools as necessary evils. Necessary they certainly are and always will be; evil they often are and will continue to be, until we learn to make the influences of organization and administration minister positively to the welfare of the individual child. To learn how to do this, we must study the child from the standpoint and in the light of the problems of the school administrator as we have thus far studied the child mainly from the standpoint and in the light of the problems of the teacher.

While, on the whole, the school administrator has lagged far behind the best teachers in making the influences of his work contribute much and positively to the welfare of the individual child, yet there are increasingly many and hopeful signs that this condition is not to continue indefinitely. Here and there, one phase or another of school administration and organization is being subordinated and adapted to the real needs of real children, in ways and with results that inspire confidence that ultimately our schools may be completely organized and administered, as well as taught, in the highest interest of every pupil. It is the purpose of this paper to direct attention briefly to a few of the most important factors of school administration and organization, as seen from the standpoint of the superintendent, to show their relations to the needs of children as individuals, and to indicate at least the direction of development and adjustment necessary to make these contribute positively and directly to the highest welfare of all children coming under their influence.

All the lessons and the whole spirit of child study demand of the school administrator that he establish clearly and consciously as the fundamental purpose and aim of the great educational enterprise which he directs the fullest possible development of every child in the community, each according to his capacity and need; that he so organize and administer the schools that every child—the normal and the abnormal, the subnormal and supernormal, the active and the passive, the quick and the slow—may be given the opportunity and the inspiration, that every child may be compelled, if need be, to make the most of the powers with which he was endowed by nature, to the end that he may develop the largest capacity for service to society and to himself. This purpose and aim of public education is radically different from the routine, traditional idea of teaching the elements of a few subjects to all children alike; the one is living, growing, adaptable, stimulating to thought, investigation, and ever more efficient practice; the other is fixed, dead, discouraging of thought and observation, repressive of all change.

Taken as a practical guide, the fundamental purpose of making the most of every child, according to his capacity, has a most profound, often a revolutionizing effect, on every phase of the organization and administration of schools.

This purpose establishes a rational and progressive standard by which to determine the amount of financial support to be given to education. In the light of this standard, the taxpayer is called upon to answer such questions as these: How much money is needed to provide for the adequate development of every child in this community? How much can be profitably invested in this development? What portion of the resources of this community can be wisely devoted to this purpose? These questions are very different from the far more familiar ones. What is the tax-rate? What was the appropriation last year? What is the expenditure per pupil compared with that of ten or twenty-five years ago? What is this, that, or the other city expending per pupil? How does the appropriation for schools compare with that for the maintenance of other departments of the municipal government? The former questions tend to establish the educational enterprise on the solid foundation of a progressive, productive, profitable industry, carried on according to sound business principles of investment and development; the latter questions suggest merely the cost and the burden of a compulsory undertaking to be discharged with the smallest expenditure.

The functioning purpose of making the most of every child inspires and justifies the differentiation of schools, which is now taking place rather rapidly and hopefully in the most progressive communities. Intelligent regard for the diversified needs of all children and youth of a community is at once impressed with the utter insufficiency of the typical elementary and high school. To these must be added a whole graded series of industrial, trade, commercial, and technical schools; schools of all the applied arts; special schools for backward, subnormal, abnormal, and diseased children; schools for the blind, the deaf, the halt; home schools for waifs and outcasts; schools for immigrants; evening, vacation, part-time, and continuation schools; and undoubtedly schools whose purpose and characteristics have not yet been even glimpsed, whose need has not yet been suspected.

Consistent and courageous pursuit of this administrative purpose of providing adequately for the best development of every child will prove no less quickening when directed toward the functions and relations of all these differentiated schools—toward their relations to each other, to the children, and to the interests of the community. It will see to it that both the spirit and the practice of co-operation prevail thruout the system of schools, that they may form really a living school organism. It will tolerate no antagonistic rivalries between the classical, technical, vocational, or other members of this organism. It will ever insist that the function and sole justification of each member is to serve the development of certain children, under certain conditions, never, from selfish motives, to usurp the functions or to lure the children of another member—such usurpation and lurement is always at a sacrifice of the children's welfare. It will insist,

further, that the function of every member of this school organism is the service of the children for whose benefit it is maintained, not the service of mechanical, irrational, and outgrown standards, rules, and regulations. To be more specific, by way of illustration, it will insist that the high school welcome and serve every boy and girl of the age and capacity to profit by high-school instruction and associations; that it will welcome and serve the earnest pupil who can pursue but one subject as well as those who take a "regular" course.

The unremitting pursuit of this purpose of adequate individual service will insure that no child be rejected from any part of the school system except on the ground that some other part can serve that child better; that the child rejected in this part be immediately accepted in that. From the school system as a whole there must be no discards.

For the sake of the child, the schools, in their organization and administration, must be in constant living touch with the interests and needs of the community and the homes. Even the wants, the demands, of the community and of the individual parent, mistaken tho they be, must be considered, must often be allowed, even graciously allowed, to shape somewhat the administrative policy of the schools. For, be it ever remembered by the school administrator, the only sure foundation on which can be done any permanently progressive work for the children is the appreciative sentiment of the people of the community.

An intimate understanding of the individual child, of his characteristics, natural capacity and inclination, and of the needs of service which that child, by education, may become capable of rendering, is the basis on which must be determined the studies, the instruction and training which that child should have. So, an intimate knowledge of the characteristics and needs of all the children of a community, and of the services which those children, by education, may become fitted to render to that community and to society at large, is the sound basis on which to construct the curriculum of the school system. That curriculum must be sufficiently broad, varied, and extensive to afford to every child in the school system just the opportunity which that child needs; more than this, and even more important, that curriculum must be so administered that every child actually gets the largest benefit. We are making doubtful progress when we enlarge and diversify our curricula far beyond the capacity of any one child to master, if we do not at the same time enlarge our sympathies and intensify our insight into the diversity of individual children's needs, and shape the administration of our curricula accordingly. A rich, modern curriculum, administered in the spirit that fittingly accompanied the ancient curriculum uniformly prescribed *in toto* for every child, is fraught with serious danger. Just how far the curriculum should be uniform for all children, just where diversity should begin, whether at the end of the eighth, of the sixth, or of any other year is a matter to be determined by the unbiased study of the

needs of the children concerned and of local conditions. Present interest and experiments in the matter are encouraging. It is quite safe to predict that this point of diversification, whether expressed in years or in subject-matter, will not be found everywhere the same; it is even safer to predict that wherever this point is found in any school system, the needs of many individual pupils will be best served by ignoring it. There is this important lesson from child study which we school administrators have yet largely to learn and to put into practice—that the age, maturity, economic and social conditions of a given child are more important in determining the next step in that child's education than are the school grades which he has passed.

In closest alliance with the enrichment and diversification of curricula and their adaptation to individual needs, is the work suggested by the term "vocational direction," which has come recently to receive so much attention. Here is a great new problem, a problem for the school administrator, the teacher, and the citizen, the largest and most promising new problem now appearing above the educational horizon. To many, vocational direction means only aiding the boy and girl, at the last moment, in "getting a job," limited, for the most part, to the poor boy and girl leaving school as soon as the law allows. Such aid is important, and should be rendered most generously; but this aid is quite superficial in comparison with the rich, practical possibilities that ought to be suggested by this idea of vocational direction. To the school administrator, vocational direction must become as large an idea as that for which the whole educational enterprise is maintained. Vocational direction is one aspect of the great purpose of making the most of every child. Vocational direction must begin years before any particular occupation can be wisely anticipated for a given child. It must begin with an intimate, sympathetic study of the child's characteristics, inclinations, and possibilities; it must be continued thru instruction and training best adapted to the development of that particular child; it must open up to the child, as he becomes capable of understanding, the rich opportunities of service which the world offers; it must teach the child to appreciate his own capacity, his own possibilities of rendering service; it must inspire the child with an intelligent desire to make himself capable of the highest service; it must finally, when the time comes for the child to end, or to interrupt his schooling, co-operate with the child in securing that service for which he is best fitted, that service whose conditions and influences will best prepare for ever higher service; it must then follow the child, indefinitely, with tactful, enlightening, and inspiring counsel.

The limits of this paper, which are almost reached, make it impossible to do more than suggest the determining influence of child study on a few more of the scores of perpetual problems of administration and organization no less important than those already discussed. Enlightened regard for the

children's health and physical well-being is a factor of rapidly growing influence. Evidences of this are seen not merely in the direct measures that are taken to establish, maintain, and improve the health of the child, such as periodical, thoro examination of every child by a physician, daily medical inspection, the work of the school nurse in school and in home, the examination and care of eyes, ears, throat, nose, and teeth, individually prescribed exercises to correct physical defects and to make strong the weak, the feeding of the starved, open-air schools for the tuberculous, but equally in the form and modifications of almost every feature of the organization and administration of schools. Hygienic considerations are rightly coming more and more to dictate not merely the location, size, shape, and construction of school buildings, their heating, lighting, ventilation, seating, and equipment, but the curriculum, the daily program, the number and length of daily sessions, terms, and vacations.

It may be of interest to note here a plan of daily sessions in the elementary schools of the city of Newton which was worked out thru several years' study and experiment—a plan which is unusual, possibly unique. The sessions are as follows in the grammar grades: eight-thirty to twelve on every school day, and one-thirty to three-thirty on Mondays, Wednesdays, and Fridays. In the primary grades the morning session closes at eleven-forty-five; otherwise the hours are the same as for the grammar grades. Tuesday and Thursday afternoons are free from all regular school work. The daily program is constructed with regard to the working capacity of pupils at these hours. This plan has been in operation in all of the Newton schools for two years, in a few of them for a longer period. I have no time to tell of its advantages, hygienic and otherwise. I will only say that it meets with the almost universal approval of teachers, parents, and pupils, which means much to one familiar with the constant, and more or less justified, criticism of both the one-session, and the two-session plans which had previously obtained.

The ultimate test of every scheme of grading and promoting is its effect on every individual child concerned. So, too, the size and organization of classes, the merits and defects of class and departmental work, are matters to be studied and determined from the standpoint of the children rather than that of the smooth-running machinery of organization, whose ideal is the handling of large masses at a minimum of expenditure of money, effort, and pains.

The few phases only of the many-sided, complex work of school administration and organization, which I have been able to touch in this brief paper, are typical of all the rest in this respect, that intelligent, patient, sympathetic, unremitting child study is everywhere the condition of wise action. And today, after twenty years of the splendid, enthusiastic, practically fruitful study of children thruout the land, which has done more for educational progress during this time than all other movements combined,

the school organizer and administrator still needs, above all else, to catch the spirit, to get the point of view, to do some of the work, and to apply the results of child study. It is popular to censure and deplore the thoughtless, routine, mechanical work of the "average" classroom teacher; but I can tell you from my experience, that thoughtlessness, routine, and mechanism are quite as common in the organization and administration of our schools, and far more to be deplored, because it conditions in large measure the work and spirit of every classroom in the school system.

It is of the utmost importance that professional students of children do for the school administrator what they have long been doing for the teacher, that they make clear to him the effects on the child of the various plans and measures of organization, that they inspire him to master and use for the positive benefit of every child the necessary machinery of organization and administration. I appeal for this outside aid to the school administrator, because he is rarely strong enough alone to break the bonds of servitude to routine, which the thoughtless sentiment and the inertia of the whole community, teachers included, almost universally support.

WHAT CAN THE PUBLIC SCHOOL DO FOR SUBNORMAL CHILDREN?

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In this paper we shall make no attempt at a logical classification or definition of normal and subnormal children. It is sufficient for the present purpose if we understand by a subnormal child one who is unable to do school work at the usual rate, or any child who is behind his grade. We shall then subdivide these into the temporarily subnormal, or retarded, and the permanently subnormal, or arrested.

The temporarily subnormal children are those whose backwardness is due to sickness, physical impairment, or unfavorable environment. When the cause is removed the child progresses at a normal rate.

The permanently subnormal children, if not at once totally arrested, are at least *permanently retarded* so that while not absolutely standing still they yet progress but slowly and become increasingly below the normal child of corresponding age, finally becoming completely arrested. These are the feeble-minded.

The feeble-minded may be divided into: (1) Those who are totally arrested before the age of three so that they show the attainment of a two-year-old child or less; these are the idiots. (2) Those so retarded that they become permanently arrested between the ages of three and seven; these are imbeciles. (3) Those so retarded that they become arrested between the ages of seven and twelve; these were formerly called feeble-minded, the same term that is applied to the whole group. We are now

proposing to call them morons, this word being the Greek for "fool." The English word "fool" as formerly used describes exactly this grade of child—one who is deficient in judgment or sense.

We are considering, therefore, in this paper, three of these groups: (1) the temporarily subnormal; (2) the morons; and (3) the imbeciles. The idiots never get into the public schools. They are too low-grade. The truant, incorrigible, and dullard may belong to any one of these three grades. The truant is usually temporarily subnormal, sometimes a moron. The incorrigible and dullard are sometimes temporarily subnormal, but more often are morons, or imbeciles. So much for our terminology.

It would seem to be self-evident that the public schools should give special attention to every child that is a year or more behind grade. Generally a sufficient reason can be found for this backwardness. If it is defective sight or hearing, we send him to a specialist. If the reason lies in previous sickness or in the environment, irregularity of attendance or change from one city system to another, the knowledge of the cause is sufficient explanation and the child is not considered to need the special care.

If no cause such as these can be discovered, then we must conclude that the child is either a moron or an imbecile. Such children will always be behind and will finally stop development completely some time before they are twelve years of age. The resulting grade of the child depends, as will be seen from our classification, upon the period at which complete arrest of development takes place. If he becomes arrested at six he is an imbecile. If he keeps on developing until somewhere between seven and twelve, he becomes a moron or high-grade feeble-minded child who can be trained to do a great many things, but can never be made normal and competent to take care of himself, without direction.

Statistics make it very evident that from 1 to 2 per cent. of all school children belong to this type of feeble-minded. This fact we have been very slow to realize. We know many children do not get on but we excuse them.

Everyone who has had even a modicum of experience either in the public or private schools knows that there are children for whom the routine work of the public-school system is not adapted, to whom it does not appeal, and does not bring out any latent powers that they may have. This has always been recognized and the explanation has frequently been sought either in the deficient teacher who has been unable to make her subject interesting, or in a bad system which does not adapt itself to the children, or in fact in anything, as a rule, except the child itself. Very seldom have we considered that the reason for the child's not progressing normally may be that the child himself has a subnormal capacity.

The writer has been studying this problem for four years, having lived during that time in intimate association with children that have been proved

feeble-minded. As the result of this study certain things have been discovered. We have accumulated a mass of facts and many evidences that these children are distinctly and emphatically different from normal children, altho in many ways they look and act like them.

I shall refer only briefly to some of the studies which have given us this conviction. We have collected measurements of weight and height of nearly ten thousand feeble-minded children. These we have divided into the idiot class, the imbeciles, and the morons. We have plotted the curves of growth for each of these groups. We shall consider here only the high-grade group that so closely resembles the slow children that we have in our public schools. It is therefore of special significance if we discover that these children show deviations from the normal, when they are examined in groups sufficiently large to bring out their characteristics. In the case of growth they do show this very decidedly. The curves indicate that these children are more variable in their growth; but more significant is the fact that they cease growing from two to three years earlier than the normal children. Thus they are subnormal in the matter of growth altho it does not show during school age. I am speaking of the morons only. The lower grades are much more below normal.

We have also tested their will-power as manifested in their ability to squeeze the dynamometer. Here again we find that our very best children have a capacity of from 20 to 30 per cent. of that of normal children.

Another line of work in which we are getting facts that are of interest and importance in more ways than that now under consideration is the heredity of these children. This can be shown to be vastly inferior to that of the majority of normal children, and the condition is transmissible.

Time forbids me to mention other tests whereby we have demonstrated that these children are different from normal children and require special care.

WHAT CAN THE PUBLIC-SCHOOL SYSTEM DO FOR THESE CHILDREN?

First, they must be removed from the regular classes. One of these children will easily take as much time of the teacher as four normal children while he may cause her as much disturbance and mental fatigue as all of the rest of the school. Indeed, I have never found a teacher who was not willing to take five normal bright children in place of one of these backward or defective ones.

These children must be taken out of the regular grades, grouped together and given a special instructor who has been trained to understand them and deal with them in accordance with their natures.

No school system of five hunderd children can afford *not* to have its special class. There may be only five children, and it will be necessary to employ a special teacher for these, but the gain not only to them but to the normal children will be so great that it will more than repay any

seeming excess of expense. Any superintendent who thinks he does not have any such children in his school is sadly mistaken. From 1 to 2 per cent. of the children of every school are mentally defective.

HOW SHALL A SPECIAL CLASS BE FORMED?

The first objection that is usually met with from superintendents and school boards is the difficulty of getting parents to accede to the plan. They fear that it will be called the "fool-class," and will bring them or their associates into disrepute, or will, as they say, put a stigma on the child for life. This is wholly a matter of procedure; badly done it will mean all of this and more; rightly done it will mean none of this, but actually its opposite. The parents will approve and be gratified and delighted at the results.

You will recall that when the Greek poet was asked to write an ode to the mule, and was offered an unjustly small compensation, he began his poem, "Hail, to the half-asses." When later his dissatisfied employers decided to give him an adequate compensation he appeared with a beautiful poem beginning, "To the daughters of the fleet-footed steed."

Make the special class like the regular class in everything but rate of progress and you emphasize the dullness of the pupils. Make it so thoroly different in outward appearance as well as inward plan—a class where the children are happy because they succeed—and you emphasize the pleasant side.

WHO SHALL BE PUT INTO THESE CLASSES?

Those who ought to be put into them are all that are not profiting by the instruction given in the regular class. As a matter of practical execution, however, it usually happens that these classes are formed a few at a time. And when we cannot take all of the backward or defective children the question arises, which ones should be selected first. In most places the worst cases are taken first. This is the wise plan.

HOW SHALL THE CLASS BE CONDUCTED? WHAT SHALL BE THE COURSE OF STUDY?

This is too large a question to be discussed elaborately, but I may make a few suggestions. The question of whether the parents approve of this class, or whether the children approve of it, whether they call it the "fool class" or not, whether the teacher enjoys it or becomes discouraged, is largely a question of what is done in the special class. As long as the motto of the special class is, "as nearly like the regular class as possible," everybody will be dissastisfied and discouraged. To attempt to give these children the same thing that they were being given in the normal class, allowing only that they should take a longer time for doing it, is a mistake. They cannot do these things. They must be given something that they can do. Were there time I could give my demonstrations; as it is I can only tell you that

we have found that the reading, writing, and number work of these children, while it sometimes looks good, is really mostly rote work and of no permanent value to them. We have tested this carefully.

THE TEACHER

The last topic that I shall consider is first in importance—the teacher. No grade in the entire system requires such perfection in the teacher as the special class. The teacher of the normal child finds her greatest help in the fact that she herself has been a child; that she has been educated in a school system that is as good as we have been able to evolve.

Now the teacher of the special child has none of this to fall back on. In fact the conditions are exactly opposite. She is teaching a child, the like of which she has hardly ever seen, a child whose nature she cannot understand from her own experience. She has to deal with a child that has not developed up to that point where he learns from his environment. He has not the same instincts and tendencies as the normal child. He is not appealed to in the usual way. He has a few years for growth and development in which, if wisely handled, he may learn many things that shall make his after-life somewhat more happy and comparatively useful. If this time is wasted and he does not learn these things then not only *he* loses but society also loses.

Again, the task of this teacher is two-fold. She must know first the normal child in order to have a standard, but she must also know the feeble-minded child in order to know the character of the child before her. No one can be thoroly successful with a special class who does not know intimately all the gradations and degrees and peculiarities of subnormal children. These must be known by actual experience and observation. Secondly, she must know the mental processes of such children. She must know at what points they would be expected to differ from normals. She must be able to recognize in the expressions and activities of these children, the characteristic forms of the various mental processes as they appear in defectives.

It goes without saying that she must have large patience, great love for the child, and a high purpose, an appreciation of the great moral and social problems involved, of the relation of such children to society in general, and to the other problems which society is attempting to solve.

HOW SHALL WE OBTAIN SUCH TEACHERS?

We have normal schools for the training of teachers, and we have university departments of pedagogy for training superintendents, principals, and teachers, but almost nowhere in the world is there an opportunity for teachers to learn to understand the defective and feeble-minded child, and how to train him. Normal schools might give some attention to the subject. A very few do attempt it. But the normal school must have its model school, and where is the model school for the teachers of mental

defectives? Nowhere except in the institutions for the feeble-minded. There is only one place in the country where teachers are being trained for this work, with a model school to work in. The situation seems almost hopeless, but we have over thirty institutions for the feeble-minded in the United States. Every one of these might become a model school for observation by prospective teachers.

Most of all, teachers must feel that there is a demand for this sort of work.

This leads us to a consideration of the compensation. It goes without saying that great attainments must be highly compensated. We cannot expect a teacher to go into these special classes after having devoted her time to this very special training, and work for the same salary that can be obtained by the teacher who has done nothing in the way of special education beyond the normal school.

The wisest thing that boards of education can do is to make the salary of the special teacher distinctly higher than that of the normal teacher, and thus offer an adequate inducement to good people to prepare themselves for this work. It should be at least 25 per cent. higher than for regular grade work.

But what can be done at once? What can be done before the provision can be made for this special training of the teacher of the special class? I would make this suggestion. There should be selected the most successful teachers from the grades who have worked with normal children from the first to the fourth grade—teachers, of course, who love children and have all the heart-qualities. If these teachers can then spend even a little time in an institution for the feeble-minded, so much the better. If they are ambitious and in earnest they can secure direction as to what to read and in this way fit themselves fairly well for the work. Such a teacher will then be placed in charge of the class with the opportunity to study the class, study the individuals, and work out her own problem. But if this plan is to be successful, such a teacher must be placed in absolute charge of the class, and become her own manager. She must be regarded as an expert and her judgment must be accepted, unless, indeed, her superior officers have had the experience, which we have outlined as the ideal one, and really do know more about the problem than she.

The one thing that spoils the whole work, is for the principal or supervisor to require of this teacher that which cannot be accomplished with such children.

This is, in my judgment, the explanation of the failure of the special classes in those schools where they seem not to have been successful. The teachers of those children were, either consciously or unconsciously, held up to a standard of work which could not be accomplished. Such a class must be turned over to the teacher absolutely. With the rightly trained teacher this is safe. It will not happen that she will simply amuse and

entertain the class all day long. Results will be accomplished, altho perhaps not the result that the ordinary teacher or superintendent usually expects. For example, it might be like this: the mother of one of our children visited the child some six months after his admission to the institution. Her comment of the child's progress during the time is suggestive. She said, "Nobody knows better than I that mine was the worst child that you could possibly have in the institution. I find him now *less able* to *read* and *write* but able to do many things that I did not expect he would ever be able to do. Six months ago he was a little animal, he is now a little boy."

There is one other question of a good deal of importance. "How long shall these children be kept in the special class?" "When shall they be turned out of the public school?" The answer to this question cannot be given until we recall the fact that these children as a rule can never take care of themselves. They can never be self-supporting except under direction. If left to themselves, if compelled to guide their own lives, they make shipwreck. They become our paupers and criminals. What, under these conditions, can we do? We must not let go of these children until we know that they are reasonably safe, even if we have to keep them in the public school as long as they live. It is vastly better for society to do this than turn them out and later have to take care of them in almshouses or jails.

Let me now resume briefly the points that I would like to make in this paper:

First, the public school can do a service to society second to none by taking care of this group of children who would otherwise be uncared for and would become a burden.

These children are the dullards and backward children that are found in the public-school system, and are being ruined by our present system of trying to make them normal.

Contrary to the understanding and belief of most people a very large percentage of these children are absolutely feeble-minded. They can never be brought up to a point where they can compete with normal people in the struggle for existence. They must, therefore, be provided for by special methods and special training.

The special-class teacher should be given not more than twelve such children.

This class should be housed in a large, light, airy room, equipped with benches and tables and all necessary material for all kinds of manual work.

This teacher or the expert supervisor should be the sole judge of the curriculum and of the results.

If all of the backward children cannot be provided for at once the worst cases should be taken first in order to relieve the public-school system of its most hampering element.

If all are taken at once, or as they come into the system, they may be graded somewhat according to mental ability. This gradation can be determined by the use of some of the tests now used for measuring intelligence, notably the Binet tests published in 1908.

There should be no age-limit when these children are to be turned out into the world. They should be kept in the public school until those who understand the case can feel perfectly certain that it is *reasonably* safe to put the child into the care of the parents or of someone who will employ him and give him careful oversight and attention to see that he does not go astray.

Only thus can society be safe from the dangers that arise from mental incompetency.

DISCUSSION

George W. Twitmyer, superintendent of schools, Wilmington, Del.—We have no generally accepted standard of normality and subnormality by which we may readily recognize what constitutes the normal or the subnormal child, and we have no accepted standardized universal tests of mental ability or mental efficiency by which any and every child may be classed definitely or surely as normal or subnormal. It is true that Binet in France and Lay and Meumann in Germany have done something toward establishing certain norms, but the results of their experiments are not yet available or generally usable in everyday school work. The terms normal and subnormal, except in the highly gifted or in the markedly defective and feeble-minded, are still largely relative terms. There is not much difficulty in classifying children who are fortunate or unfortunate enough to find themselves at one or the other extreme of the arc, not much difficulty in determining what to do with them, but what of the great number between these two extremes?

If we keep clearly in mind what the public school should do for *all* children, then we shall be able to derive some basic principle that will serve us in determining our prodecure. It is the function of the public school to put the child in possession of himself—of his powers—so that he may know the means and seize the opportunity for the care of his body, for the development of his mind, and the enlargement of his moral nature.

The paramount problem of the school today is that of prevention and cure. It is the problem of recognizing physical, mental, moral, or social defect in its early stages, of alleviating it, of curing it if possible; or if it is not curable, the problem is that of segregation. The imperative duty of the public school today is to diagnose, that is, to recognize and identify bodily defects, deformities, and illness and deviations from normal development which may produce mental, moral, or social disturbances. Physical defects, mental defects, and moral delinquencies are nearly always correlative. The teacher must learn to recognize physical defects, the physical stigmata which are indicative of certain mental conditions and attitudes, fixed tastes, and abnormal habits; he must be able to recognize the handicaps of the dull, the stupid, the unresponsive, and the hopeless. These are at once the teacher's despair and opportunity—despair because of the magnitude of the problem, what to do with the unfortunates; and at the same time a marvelous opportunity of removing in some degree the causes that are shutting out light and life and surely dragging them down hopelessly into a sort of human rubbish pile from which there is no escape.

Now what can the teacher do? Having diagnosed, thru intelligent, sympathetic study and careful tests all of the physical defects in the class, she must have a personal interview with the parents and, if possible, persuade them to procure medical, surgical, mechanical, or other aid for the several defects of the children. Diagnosis must be followed by remedial measures. All of this work will require large intelligence, courage, time, energy, a personal sacrifice of comfort, and a most sacred devotion to the welfare of the

children. Not all parents will think kindly of the teacher's suggestions; they will sometimes regard them as an intrusion into affairs that concern the home only, but the more intelligent of the parents will generally be quite ready to do what they can to help their children into better mental life thru the bettering of physical conditions. This the school must do as the first step, and all schools so disposed can by intelligent, persistent, and determined effort bring about wonderful results in the improved mental life in the schools.

We have done some things in our city toward caring for our subnormal children; we have just made a beginning and what we have done can easily be done by other cities or school systems. We began eight years ago by reducing the number of pupils per teacher from fifty-five and sixty to forty-two; our average last year was thirty-two. This made it possible for the teacher to get into closer touch with each child and to diagnose each one's abnormalities or deviations accurately enough to be able to determine individual needs and how best to supply them. A system of card records has been installed in which a record of each child, normal and abnormal, is kept from the day he enters school until the day he leaves it; these cards contain a complete summary of the child's physical and mental condition, progress thru the schools, special tendencies, degree and causes of retardation, any marked peculiarities or deviations, etc. All data are carefully noted and this record follows the child from school to school, so that it is possible to locate a pupil as to his physical and mental conditions, rate of progress thru the grades, and to follow him up with the application of needed remedial measures.

We have done something toward breaking down the barriers of educational tradition, the awakening and enlightening of public opinion, and preparing for the organization of special schools in which we shall be able to apply the latest and best thought and practice achieved in scientific paidology. We have only made a beginning.

DEPARTMENT OF PHYSICAL EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—Clark W. Hetherington, head of Dept. of Phys. Ed., Univ. of Missouri. . Columbia, Mo.
Vice-President—Robert J. Aley, state superintendent of public instruction. . . . . Indianapolis, Ind.
Secretary—Miss Amy M. Homans, Dept. of Phys. Ed., Wellesley College . . . . . Wellesley, Mass.

FIRST SESSION—Tuesday Forenoon, July 5, 1910

The meeting was called to order in Huntington Hall, Massachusetts Institute of Technology, Boston, at 9:30 A.M., by President Clark W. Hetherington. During the session President Hetherington was obliged to leave the meeting, and called Thomas F. Harrington, director of the School of Hygiene, Boston, Mass., to the chair.

The first paper was "The Deeper Significance of the School-Hygiene Movement," by Richard C. Cabot, of Boston, Mass. This paper was discussed by William H. Burnham, professor of pedagogy, Clark University, Worcester, Mass.

Then followed a paper on "Psychological Aspects of Physical Education," by G. Stanley Hall, president of Clark University, Worcester, Mass., discussed by Thomas M. Balliet, dean of School of Pedagogy, New York University, New York City, N.Y., G. W. A. Luckey, head of department of education, University of Nebraska, Lincoln, Nebr., William Orr, Deputy State Commissioner of Education, Boston, Mass., and Ernst Hermann, director of physical education, Cambridge, Mass.

The chairman then appointed the following Committee on Nominations:

G. W. A. Luckey, head of department of education, University of Nebraska, Lincoln, Nebr.

Wilbur P. Bowen, professor of physical education, State Normal College, Ypsilanti, Mich.

Miss Laura S. Plummer, director of physical training, Boston City Normal School, Boston, Mass.

SECOND SESSION—Thursday Forenoon, July 7, 1910

The meeting was called to order by President Clark W. Hetherington.

The general topic of the session was the "Physical Education of Girls." The first paper was "Physical Education of Girls during Childhood and Pubescent Period, or Upper-Grade and Lower-High-School Age," by Miss Rebecca Stoneroad, director of physical training, Public Schools, Washington, D.C.

The discussion was led by Miss Laura S. Plummer, director of physical training, Boston City Normal School, Boston, Mass.

The second paper, "Physical Education of Girls during Post-Pubescent Period, or Upper-High-School and College Age," was given by Miss Elizabeth Wright, director of physical training, Radcliffe College, Cambridge, Mass., and was discussed by Miss Lillian M. Towne, assistant supervisor of substitutes, Public Schools, Boston, Mass.

The Committee on Nominations reported as follows:

For *President*—Clark W. Hetherington, head of department of physical education, University of Missouri, Columbia, Mo.

For *Vice-President*—Miss Amy M. Homans, department of physical education, Wellesley College, Wellesley, Mass.

For *Secretary*—Miss Clara G. Baer, Sophie Newcomb College, New Orleans, La.

The report was accepted and adopted and the nominees were declared elected.

FRIDAY AFTERNOON, JULY 8, 1910

A lecture on "Mouth Hygiene in the Public Schools" was given by William H. Potter, D.M.D., president, Massachusetts Dental Hygiene Council, Boston, Mass.

AMY M. HOMANS, *Secretary*

PAPERS AND DISCUSSIONS

THE DEEPER SIGNIFICANCE OF THE SCHOOL-HYGIENE MOVEMENT

RICHARD C. CABOT, M.D., BOSTON, MASS.

I am not here to speak of the practical details of hygiene among which I work from week to week. This is my holiday, or at any rate my holy-hour in which I am privileged (thru the welcome invitation of your chairman) to concentrate my thoughts on that background of deeper significance which gives school hygiene its claim upon the attention of educated people.

I. INDIVIDUALITY AND HYGIENE

It is one of the glories of modern education—in theory if not always in practice—that it recognizes in each scholar a unique creation, not quite like any other ever fashioned by its Creator. The elective system and the tutorial system for collegiate students, the vocational trend in high-school and grammar-school work, have come to stay because they appeal to and nourish individual initiative in each boy and ultimately, we hope, in each girl—tho we usually forget her. But school hygiene also leads us—somewhat to our surprise—in the same direction. The differences in children's eyes, ears, and teeth, the differences in their weight and height at a given age are recognized thru closer study of their individuality. These physical individualities we attack; we hope to wipe them out, and even them up. We shall succeed in a measure, but only as a result of a more individual study of each child, a study which is at the basis of our reforming effort. And in the end there will remain, after reform has done its best to expunge these physical differences, a group of characteristics deep as temperament itself. The astigmatic eye, even when corrected by glasses, looks upon the world differently from the near-sighted or the normal eye. The over-corpulent youth will forever taste in his experiences certain flavors which the nervous high-strung boy will miss, even when school hygiene has done its best to average him up. For physical differences are as fundamental and as permanent as any in our nature, tho we are just beginning to realize them. To each must be fitted, by instinct or by study, the hygiene that brings out the best of him. There is no single hygiene for all. Each must find or choose his own in the physical realm, as in politics, in marriage, and in religion. The study of school hygiene is beginning to wake up as to this.

II. COMPULSORY ILL-HEALTH—THE OUTCOME OF SCHOOL ATTENDANCE

Then, as we sit up and rub our eyes, we begin to realize that another new responsibility has been dumped upon our moral shoulders by William H. Allen, Luther H. Gulick, and others who have knocked at our doors. We, the public—we who make and support compulsory school laws—never dreamed that in those laws were involved *compulsory ill-health* due to compulsory overcrowding, such as we blame the landlord for in the tenement-house districts. The air of many schoolrooms is more vitiated, more unhealthy, than that of the average tenement, for the tenement windows usually leak splendidly and fresh air creeps in, but the schoolrooms are often hermetically sealed, so that nothing can get in or out except the baked and desiccated air which artificial ventilation supplies. Tenement-house conditions and tenement-house congestion are not compulsory. If the affront to health and morals is serious enough, people can move out toward the country. But schoolroom congestion, with the contagion, the desiccation, the eye-strain and the nerve-strain which it entails, is compulsory. Those other compulsory institutions, the jails, are probably worse hygienically than the schools; but then we must remember that we don't all of us have to go to jail. Into the schoolrooms we all are herded, whether we are guilty or not guilty, found out or still undiscovered in our sins. Compulsory ill-health, compulsory exposure both to disease at close range and to the conditions which tend to weaken our resistance to disease, is to be encountered so far as I know only in our schools.

But the remedy is close at hand. To our rescue comes rushing that strangest of allies, that most terrible of avengers—tuberculosis. Thru our experience with tuberculosis, we learn that outdoor schools, or outdoor rooms in schools, are life-savers for consumptive children. Next we learn that the outdoor room does wonders for the weak, puny, "pre-tuberculous," or "threatened" child—wonders for his brain as well as for his lungs. Soon we shall extend the privilege of unvitiated air even to those not yet sickened by the overheated and overdried gases which pour out of our expensive ventilating systems. Schools will be remodeled and teachers will have to shiver or become peripatetic in outdoor rooms.

The taunt of paternalism, the reproach of doing too much for our people, will be thrown at you from time to time as the school-hygiene movement makes itself expensive. Answer your opponent with the question: "Who has a right to force upon children, thru a compulsory school law, conditions that make the amount of scarlet fever and diphtheria double as soon as the schools open? Who has this right unless he does all he can to minimize these and similar evils by reforms such as we propose?"

III. THE EDUCATOR—THE COURT OF FINAL APPEAL

Of the value of all reforms in school hygiene, the educator must be the judge. It is not from the medical but from the educational standpoint,

from the standpoint of that maximal development of character in each individual which is always the educator's purpose, that we can judge hygiene proposals most sanely. You teachers know the end for which health is a useful means. We doctors are too prone to think of health as an end in itself, to push it into the foreground, instead of keeping it and all that concerns it in the background where they belong. It is for the educator to judge whether dental hygiene, when it comes, is worth all it will cost or whether it may not be better to enter into the kingdom of heaven without teeth than to lose our souls in the pursuit of dental perfection. I do not prejudge the issue. No one but you educators can decide it.

So it is with all our hygienic enthusiasms. The educator must weigh them fairly in his well-worn scales. Good health is no substitute for education, or for the performance of any of our world-old tasks. Good health and the concern for it may be a magnificent ally in the battle which you are waging against ignorance, selfishness, and sloth. But at any moment good health and the concern for it may become your enemy, may have to be sacrificed for greater ends. Three of the very best things in life, three tasks toward which you want your pupils to aspire, are bad for health: heroism, creative work, and child-bearing. To risk one's life is rarely conducive to good hygiene, even if the life is not lost. Heroism burns up the stored resources of body and brain; it is for such generous expenditure that our strength is stored. And when we grant this, as we must, shall we not also perceive that the boy who is trained to save up his strength for the heroic until he has accumulated a safe and sane capital of health in maturity, won't begin to spend himself at that ripe age!

All creative work, all invention, artistic or scientific discovery, and all child-bearing, entail a wear and tear that leaves our tissues sadder tho wiser than before. We must not shun such fiery trials—they are the very best of life—but they leave their mark.

I am not urging that we should neglect health and search for the heroic or creative battles which kill or wound it; but I do urge upon you as educators that you shall exercise in relation to this school-hygiene movement your full and noble prerogative as the guardians of the child's ultimate welfare.

There is one standard for conduct, not two; health is always a means, never an end. Hygiene must not crowd the mature standards of educational judgment into a defensive or apologetic position as if they were out of date. Let the architects, the engineers, the doctors, and the nurses present their schemes to you. Give them a fair trial but don't be hypnotized by them. Most of them are special pleaders. They know the mechanics and physiology of the situation very well, but as a rule they don't really care what a child learns or does so long as his eyes, his teeth, and his adenoids are looked after. Most enthusiasts on school hygiene are bored when you begin to discuss educational problems. How to train judgment, how to train

sympathy, imagination, accurate observation, spiritual discernment—these problems and their solution will be shoved on one side, crowded into a corner if you let the school-hygiene movement go its own way. Physical problems are so much simpler than educational problems proper, so attractive to us when we are tired or discouraged with the subtler and more important complicated tasks of the teachers' art, that we find them seductive and restful.

I am an enthusiast for school hygiene. I shall continue to press its claims as hard as I can upon you educators. But I am the lawyer for my special interest; you are the jury. There is much to be said on the other side.

IV. DANGERS OF THE SCHOOL-HYGIENE MOVEMENT

This, for example: Unmitigated hygiene enthusiasm is apt to lead us into what Chesterton calls "Tospy Turvy Land" where everything is upside down. A minister of religion, deeply impressed with the claims of hygiene, recently wrote to ask me whether I thought religion was good for the health. Think of that! He asked me whether the highest fruition of human life, the end to which all creation moves, was good for, was a serviceable means toward, an unimpaired digestion!

Is it good for my nerves to jump overboard and save a drowning child? Will it benefit my complexion if I ride into the Arizona desert after a lost comrade? Will it strengthen my lungs if I go thru the smoke and flame of a burning house to find my wife? This is in effect the question which my ministerial friend asked me with all the terrible humility of one who entered Topsy Turvy Land.

Hygiene is a splendid servant but a wretched master. It is perfectly right to do the healthy thing provided there's nothing better to do, but hygienic perfection does not always mean righteousness or even conduce toward it. I have seen many a man hygienically and physically perfect who was a monster of sexual immorality. Good sexual hygiene is perfectly compatible with sexual vileness.

Or take it on the mental side—the Christian Scientists are perfectly right to suppress so far as they can the thought of disease. That's the doctor's business, not the layman's. But it is just as necessary to suppress the consciousness of health. To be acutely conscious of physical health is to be spiritually diseased, self-centered, morbid. A man should be thinking of his job, of his friends, of his God—not of his body or his soul. Physical education and mental education are bad phrases—both. It is the person's interests, his hopes, his work-power, and his play-power that we want to develop thru indoor and outdoor activities which use, blend, and subordinate both body and soul to a hot pursuit in which life is lost and therefore found.

If gymnastics makes us think of our bodies, it is bad. If philosophy makes us think of our souls, it is equally bad. But I know that in athletics

and in philosophy a man may wholly forget himself in devotion to his aim. Then things are as they should be.

Full life, life more abundant, makes us act, think, and enjoy without distinct consciousness of body or of soul, of hygiene or of psychology, as we were meant to do. Test every innovation of the physician or of the psychologist with Christ's great touchstone: Does it make life more abundant, self less obtrusive? Does it help the pupil to lose his life and so to find it? It is for you to judge.

SUMMARY

1. I congratulate you on the incorporation of better ideals of school hygiene into the body of your educational theory. These ideals call for a more intimate knowledge of each child's individuality viewed from the physical side. They will therefore increase your understanding of each pupil.

2. School hygiene is founded on the startled recognition that compulsory school laws mean compulsory disease unless we shape them so as to compel health.

3. School hygiene is still in the experimental stage. It is the business of the hygienist to push and plead for his schemes with all his might. It is the duty of the educator to bring each innovation to the final test: Has it come that we may have life and have "it more abundantly"?

DISCUSSION

William H. Burnham, Clark University, Worcester, Mass.—Dr. Cabot has emphasized the wider significance of the movement for school hygiene none too strongly. The most that I can do is to corroborate what has been said, and to add perhaps two or three illustrations. No matter where we begin in the study of this subject, if we pursue our investigations very far we are sure to see its deeper significance. The movement bids fair profoundly to modify if not to revolutionize our views of education.

For example, if we study the teeth of school children we find that 80 per cent. of all school children are likely to have decaying teeth, i.e., there are some twelve million children with decaying teeth in this country. This is a serious menace to health and to school work. These defects require immediate attention. Suppose we try to remedy the evil. Better still, suppose that some specialist, some hygienic crank, if you please, like myself, had the money and the power to establish dental clinics everywhere in connection with the schools, and the much-needed work of caring for the teeth of the children were immediately begun. The older dentists are busy; we must depend largely on the younger men. If every young dentist who this year receives his registration certificate were employed in the work, it would probably take many years before the teeth of the twelve million children could be properly treated and filled; and then they would only be patched. Obviously we must go farther back, and some more fundamental remedy must be employed. What is the cause of all these defective teeth? It is malnutrition, and unsanitary surroundings, and lack of hygienic care of the teeth. All these must receive attention. Thus from our concrete problem of dental inspection and dental care of school children we are led to the deeper and more fundamental problems of nutrition and hygienic surroundings in general.

Again, as regards the eyes of school children, recent studies of the vision of school children by Steiger and Miss Barrington and Karl Pearson seem pretty clearly to demon-

strate that acuity of vision and errors of refraction are in large degree inherited. And thus our study of the hygiene of vision in the school leads us into the wider field of eugenics.

Again, take another illustration. It was estimated a few years ago that some five thousand children in the Boston schools were suffering from tuberculosis. To care for these children and at the same time to cure if possible this disease, we have opened outdoor schools. But the result of this movement has been to call attention to the fact that there are many other poorly nourished and anemic children—candidates for this disease, or very likely already harboring the germs of tuberculosis, altho at present latent, and that these children also need the outdoor life. And again, the work in these schools has been so satisfactory that distinct pedagogical advantages are suggested, and the query now is why normal children should not have the benefit of outdoor oxygen as well as those who are diseased. Already the thesis may plausibly be maintained that the worst thing that ever happened both to education and hygiene was the building of schoolhouses, and that true pedagogy as well as true hygiene is the pedagogy of out-of-doors.

Again, modern psychiatry teaches us that in many cases of nervous and mental disorder the most important means of cure is re-education—the development of healthful interests and healthful activity, of attention, of control, of orderly habits of association. Now, a moment's reflection reminds us that most of these patients were a few years ago pupils in the public schools, and that the development of wholesome habits of activity, of attention, control, and orderly association, are quite as important for the preventing of nervous disorder as for its cure. Thus all methods and principles of pedagogy are now studied from the point of view of hygiene.

The significance of motor and physical training, so emphatically shown by the president of this department, is still another illustration of the deeper significance of this movement; but that I must leave to Professor Hetherington to present.

There is, as everybody knows, a great gap between our knowledge of hygiene and our practice. The school doctor sends home a child just coming down with the measles; the mother lets him out to play on the streeet. The medical inspector discovers an adenoid; the family physician may object to an operation and recommend a gargle. The teacher reports that a child is nearsighted; the thrifty parent provides glasses from the five and ten cent store. Obviously the parent should be trained in hygiene. If we ask when this training of parents should begin, the answer is, at least by the time they are eight years of age. Thus we are brought back again to the great problems of school education.

Thus, as I say, the modern movement for school hygiene bids fair to revolutionize our educational aims. Hygiene is no longer merely negative; it aims not merely at the removal of conditions injurious to health; but it is also positive; and it aims primarily at normal healthful development and the acquisition of habits of healthful activity, both physical and mental.

PSYCHOLOGICAL ASPECTS OF PHYSICAL EDUCATION

G. STANLEY HALL, PRESIDENT CLARK UNIVERSITY, WORCESTER, MASS.

The cultivation of mind and body belong together and the highest development of each involves that of the other. This the world since Plato has known by heart and I never heard or read of anyone, save ascetics, who doubted it. Nevertheless, we now confront the new and grave danger of separating brain and brawn. Headworkers sit, ride in trams and autos, while the best-muscled class of men are the most unskilled, ignorant, wage-earning day laborers who lack all interest in their work because it

is for others. The boss does what thinking is necessary and they only obey like dumb, driven oxen. Never was so much labor merely mechanical and sometimes so monotonous that a brainless automaton might do it and machinery will soon do it. In the good old times headwork and handwork went together; but now one class specializes in handwork and another in headwork.

We see today, alas! the beginnings of this same division of labor in athletics. The manager hires the player, schedules him, has him sign rules, and he is fined or laid off if he does not obey. A captain, coach, or trainer dictates diet, sleep, regimen, and perhaps lays down the moral code, so that the modern gladiator's part is not to reason why, but to do or die till his heyday fades and he sinks from the brief glory of being the hero of the bleachers to the long evening twilight of a has-been, and it may be to grow fat and logy with only the consolation prize of his memories, perhaps allowing himself indulgences that were denied him in his days of servitude, for the average athlete past his prime and out of the game under our system has peculiar temptations and weaknesses.

Among the Greek athletes the very best thing gained was the splendid spirit of freedom which is the most precious result which any and every kind of physical culture can give. These fashion-setters of our art-canons learned self-control and did not have to work under the control of others. Their body-training was only the preparation for the culture of philosophy (as in the case of Plato or Aristotle, whose lectures were given to those who could keep up with him walking) or it was the introduction to the arts of the Muses. Milo acquired his strength because he had the wit to devise and the vigor to carry out all by himself a unique original system of training. Hercules waxed strong by performing great and useful public works for the benefit of the community.

Now, a brainy athlete will always best train himself by following an inner monitor which is always whispering to him "More," "Enough," or "Too much," and guides his regimen like the still small voice of conscience. Now, it is precisely this inner oracle which is the "holy spirit" of physical training that the coach or trainer stifles. He robs the athlete of the very best lessons of his discipline, viz., bodily self-guidance, the attainment of a physiological majority which comes with competence to care for one's bodily self. The supreme problem of the academic athlete is to solve his own personal hygienic problem which is always and for everyone an original investigation on which his success or failure in life will largely depend. His problem is how to get the very most and best out of his own physique. To this end, he must carefully observe himself in rest, in fatigue, when full or hungry, when growing lean or fat, and learn the great lesson of being the steward of his own body, developing power to resist sloth and appetite or overtraining in himself. This alone can give him true self-knowledge and self-control. At the very most, he should be only allowed

access when in doubt to a medical adviser who might now and then help him toward solving the problems that in the last analysis must always be his own. By this method, the physical improvement gained by training would not be lost, for gain would be only a stimulus to a permanent higher plane of vitality and effectiveness. This would be a far harder but more acceptable offering to lay upon the great altar the world is now rearing to the sublime goddess Hygeia than mere beefiness, spurtiness, or a whole cabinet of trophies.

Most of us habitually live at about 60, 70, or perhaps 80 per cent. of our maximal health and strength. The athlete should get up to and stay at 90 or 100 per cent. of his best possible condition. Some invalids carry a handicap of weakness or perhaps chronic illness that would wear them down to an early grave did they not develop a veritable genius for personal hygiene, experimenting with and observing themselves, profiting by and treasuring every lesson of experience till they find their way to a code of regimen that would fit no one else, but does fit them so perfectly that they perhaps live on to a good old age like Kant and get an amazing quantity of work out of perhaps rather frail bodies. At the age of fifty or sixty, every intelligent man is either the best and most philosophical physician to himself for all but acute diseases or accidents, or else he is an invalid. Now, the ideal athlete does this same thing only higher up among the altitudes on the scale of health. The studies of Irving Fisher seem to show that man could live on the average about fifteen years longer than he does by conforming to all the known laws of individual and social hygiene. Just so, he might live his life out 15 per cent. higher up on the scale of health and efficiency, but to do so, he must become an expert, a professor in the art of keeping himself well. Others may suggest, inform, and help in emergencies, but everybody's health problem is at root and core essentially his own. Here he must make original investigations and profit by them. To make a few weeks' excursion up into the higher levels of health by special training and then to lapse back to lower levels, or to fall from grace, and to repeat this every athletic season for the college quadrennium is of very doubtful value. The true athlete ought to be an aristocrat of health both born and bred, and the best test of success at the end of his college course would be not his records in field or track, his strength tests, his medals, cups, and pennants, but what he could put down as having learned about how to keep to the very tip-top of his condition, and he ought to be able to do this better than any other to the very end of his life.

Thus we may see that the average coach with his little kit of rules and his brief authority is today the chief enemy of athletic intelligence, if not indeed its stultifier and debaucher. He is as far from being truly professional as a cyclone revivalist is from being a professor of theology, or as a church-debt lifter is from an academic chair of finance.

My second point is that the college and high-school faculties and ath-

letic committees have been pedagogically both stupid and wasteful in their methods of dealing with athletics. They have been absorbed in the efforts to regulate from without when they should have utilized this enthusiasm for intellectual and moral culture. They have made no serious attempt to connect this zest with the highest culture as the ancient Greeks and the modern Turners did. The history of physical training and athletics is one of the most splendid in the annals of the race and is replete thruout with the purest and noblest humanism. The very descriptions of the great pan-Hellenic games where the victors received honors almost divine and whom sculptors and poets like Praxiteles and Pindar devoted their lives to immortalizing, the story of Jahn and the noble, political, patriotic enthusiasm for the fatherland which he and his followers developed—these bright historical pages abound in incidents that should glow again in the heart of every athlete where they would tend to sublimate muscular into moral power. Toward present-day contests neither our psychologists, literary men, physiologists, physicians, nor moralists have done their duty, for this is not discharged by joining the rooting throng. Not reporters, but academic professors devoted to feeding these interests, long circuiting them on a higher plane, bringing to bear the vast and precious repertory of facts and lessons which could be absorbed—these are what are now needed. The great body of experimental data on the effects of practical training, use, disuse, fatigue, rest, and every hygienic and dietary research in our laboratory that sheds light upon the muscle and nerve culture should be collated. One single spark of pedagogic genius here just now to correlate all this material, kindle it, and bring it into vital touch with the restless, aimless, surging, athletic calentures would at once make a new situation everywhere in this field. What is there in this domain that these noble youth so eager for health and strength and victory must know and need to know? How shall we order it, condense it, put it to fit their quick and eager, if undiscursive and unscholastic and impatient minds? This is the question that now groans and travails for answer thru every gymnasium and in every athletic field and it is not creditable to our faculties that it is still unsolved. The data are so copious, so meaty, so pragmatic, but alas, still so scattered and ineffective! Such a compend as I am demanding would be a veritable bible for athletes. It would instill honor, temperance, the simple life, the spirit of loyalty to larger wholes even than the alma mater. It would at the same time make training a fine art resting on a good body of science behind it. Young men are perhaps more easily inspired by a high spirit of honor than by any other of the great uplifting sentiments, and men in training are particularly susceptible to this education of the heart. All this the trainer kills, teaching only to win at any price. The literature of war and of chivalry itself affords no more brilliant instances of self-denial and self-sacrifice, of true heroism, of magnanimity to foes and the vanquished, of the gentlemanly great hearts of self-imposed, personal

virtue and chastity for the greater glory of the larger group than can be found here, so that ethics could find here florid and glowing illustrations for about every virtue it teaches.

The ideal academic athlete, as I conceive him, ought by every token of psycho-physical parallelism or interaction to be or to make himself just as much superior to the average in soul as he is in body, for otherwise he is more or less lopsided and monstrous. Magnanimity belongs with size and grasp of intellect with strength, and mental with physical agility, endurance, grace, etc. The culture of each should keep pace with that of the other. Christologists, reacting from the old ascetic ideals, are beginning to conceive of Jesus as a man of great size, strength, power of sustained endeavor, as majestic, magnetic, and virile in his personality, as divine in his physique as in his psyche. They thus find belief in his mighty works far easier than when he was deemed feminine or a weakling, or a man of insignificant size or ugly form. So my ideal college athletes should be fit for artists' models, thoroughbred gentlemen, and should have what naturally belongs with this, a higher code of honor. Perhaps the time is nearer than we think when they will be indeed found as a new order of nobility with its own *esprit de corps*, its own *noblesse oblige*, etc. Who knows but in the near future of eugenics they may be progenitors of a higher type of man than the world has yet seen and take a unique and distinct step forward toward the kingdom of the superman? If Galton's dream of endowed wedlock and pensioned children of all the fit ever be realized, men like these ought to enter the contest for the first prize in this field, for those thus especially endowed by nature and nurture, eminent by heredity and training, have special duties to posterity of whose interests they ought to be in a peculiar sense the guardians and promoters. To the strongest as to the bravest belong the fairest, by nature's great law of affinity. These men should be nature's noblemen and their conduct ought to be ideal. They should set fashions in bearing, in deportment, be the true aristocrats in a republic where personality, character, and merit should set copy for human behavior.

It is up to our faculties thus to sublimate physical into psychic excellence, to transmute crude physiological ore into the gold of character, to see to it that strength does not lapse to brutality, animality, or sensuality, to feel themselves charged with the responsibility that fitness for physical conflicts is only a propadeutic for fitting them to be winners in moral battles later, to turn the courage and prowess won on the athletic field against sin, corruption, and ignorance, for the great victories of our age are won not by muscular but by moral stalwartness and aggressiveness.

This is indeed the very central and quintessential thing in education, and to say that we cannot do this is to confess that we do not know truly how to educate. Let us rather say with the greatest of modern ethical teachers that we can because we must, for duty is never impossible. It is hard, yes,

but let us professors take courage and catch inspiration from our young barbarians at play and go into training for this great and difficult task.

Could not this section of this meeting select a committee to gather the resources from all the above sources and work out a culture curriculum of these things from the past to the present, from the broad fields of history, hygiene, ethics, eugenics, and the rest that athletic interests crave and need to the end of giving to the word *gymnasium* more of the meaning it had in Greece and Germany, and to reform athletics by beginning within the heart and mind of the athletes themselves, thus striving to open up a highway which nature intended to be always broad and well traveled, but which is now grown up and jungled—the way by which excellence of physique passes into that of psyche?

DISCUSSION

Thomas M. Balliet, New York University, New York City.—I cannot speak as a specialist in physical training; I must discuss the topic assigned me from the standpoint of a student of education in general.

The recognition of the psychological factor in physical training in our discussions is comparatively recent. Ten years ago only a few leaders began to see its significance, and its meaning is not fully appreciated even today; but we are making rapid progress. The playground movement which has made such enormous strides within the last few years testifies to this fact.

The influence of physical exercise and bodily conditions on the mind is generally recognized today, but how this influence is produced, what kinds of exercise affect the mind favorably, and what kinds unfavorably or less favorably, how the mental state affects the physical results of the exercise—all these and others are still imperfectly understood questions.

We may, however, point out a few principles which seem to be made out with a fair degree of certainty.

1. In the first place, physical exercise like any other sort of training must appeal to the pupil's interest. Any subject in the curriculum which is thruout, or predominantly, uninteresting to the pupil is either presented at the wrong time or in the wrong way.

2. Interest is rooted in the instincts. Therefore physical education must be based not only on anatomy and physiology, but on the psychology and pedagogy of the instincts. We must build on the great fundamental racial instincts; not on all of them, but on those which underlie muscular movements. These instincts are the product of evolution.

3. This is equivalent to saying that we must organize physical education in harmony with the evolution of body and of mind. The human body and the mind mature, in a general way, in the order in which they evolved in the animal series. All education must have regard to this fact and place itself into harmony with it.

4. This means that the movements which the race made for ages, thru which the body developed, speaking generally (no matter what theory of heredity we may hold) are the movements which must form the main part of the exercise we give to growing children.

5. These ancestral movements are the play movements of children. Play has been described as a rehearsal of ancestral work. What was the serious work of our remote prehistoric ancestors has been registered on the nervous system, is inherited, and manifests itself as play in the growing child.

6. There is no evolution or heredity behind the artificial movements of our formal gymnastics. They are not intrinsically interesting. Children never practice them for pleasure out of school as they do games taught them in school. They do not have the

same reflex effect on the mind and especially the emotions as play; and, because of the absence of this psychic factor, they do not have the same effect on the body. A walk for one's health taken for conscience' sake has not the same effect on body or mind as a game of golf, altho you may expend exactly the same number of footpounds of energy in both; in like manner, sawing wood does not produce the same effect as a game of tennis.

7. We are coming to recognize that play must constitute the chief factor in physical education and formal gymnastics take a wholly subordinate place. The latter should be related to the former as medicine to food. Wild animals develop healthy bodies by playing during their period of growth and doing useful work in the form of finding food and shelter during the rest of their lives. This would be possible in the case of children were it not for the fact that they are sent to school and obliged to sit still for five hours a day, and that some of them are physically defective. It is here where formal gymnastics will always be necessary to correct the effects of unnatural postures at the school desk and for medical purposes.

8. But there is another psychological aspect of play as physical exercise. Mind has evolved in the animal series in connection with movement. This is true of the emotions and the volitional nature as well as of the intellectual. As a means of survival among lower animals, movement toward food and away from danger was fundamental. Feeling, no doubt, developed to intensify movement, and thought developed to direct it. The co-ordinations used by our remote ancestors in work which are now used in play (as already explained), are the very co-ordinations in connection with which mind evolved in the race. These co-ordinations are therefore the movements which will tend to awake and develop mind, particularly the emotions, as artificial, formal gymnastic movements cannot.

9. This process of reorganizing physical training on a basis of play is now going on, and the problems that grow out of it are the vital problems in physical education today.

10. Dr. Cabot in his paper has emphasized a point which, I think, was first suggested by Dr. Gulick, of New York, namely, the point that good health is a means and not an end, and that not health but efficiency must be the ultimate aim of physical training. This introduces into the problem an ethical factor, which as Dr. Cabot has shown, must be a controlling one in your work.

It becomes every day clearer that physical training must be studied in the light of the entire curriculum. You are not dealing merely with problems of health, but also with problems of psychology, ethics, and pedagogy in general.

Indeed the playground movement is ultimately going to change the curriculum of our primary schools and will more or less modify that of all public schools. It is likely that our elementary schools for the first three years will have a daily session of two and a half or three hours and a supervised playground will take the children in the afternoon. Three hours of mental work and sitting still per day is quite enough for children at that age. This is not a radical but a conservative suggestion. The playground movement and the open-air-school movement are likely to effect together more radical changes. The director of physical training in a system of public schools in the future must be not merely a specialist in his subject, but must have a general knowledge of psychology, of pedagogy, and of school administration. We are already beginning to develop this type of leadership. While schools of physical education can train the rank and file of teachers of physical training, who are to work under leaders, the universities which have well-organized schools of education and of medicine must assume the training of the leaders. They alone are adequately equipped to do it.

G. W. A. Luckey, head professor of education, University of Nebraska.—The difference between athletics as a means of physical and mental development with the initiative from within, and athletics as a means of habituation in conformity to an ideal from without has been clearly pointed out in Dr. Hall's paper.

When athletics becomes an end in itself, its educational value is at a minimum, but when it becomes a means to the larger end of developing the best men and women, its educational value is at a maximum. I do not think that Dr. Hall means to do away with the coach or trainer. Like the true physician, he becomes invaluable, not alone in diagnosing organic difficulties and aiding in their eradication, but in assisting the individual at the opportune moment to discover his higher self.

To the freedom, self-knowledge, self-control, which Dr. Hall mentioned as gained thru the physical education of the Greeks, I think we should add self-initiative. To understand is well; to execute is better. The educational process is a feeling, a perceiving, and a doing. Efficiency comes thru activity, but the highest efficiency can come only thru intensive activity. We waste vast amounts of nervous energy by too long periods of low-grade or indifferent work. Shorten the hours of physical and mental activities, but increase the intensity. It is intensive activity that causes the irrigating canals of the body to overflow into other less used channels. We appreciate this in training the athlete, but not in training the student.

All physical education must be corrective, as well as creative. Hence, it must be individualistic and the initiative must come from within.

Another mistake which we have made and are still making is too great specialization or one-sided development. Class spirit and college rivalry tend to perpetuate this difficulty. Our ideals are wrong. We make physical education an end in itself, instead of the means to a much higher end—the best development of the human race. What we need as a race is balance—physical, intellectual, emotional, volitional. When we find a child one-sided in development, we should not try to increase this abnormality, but to eradicate it by bringing other activities up to its level. The shot-put man should be taught to run not for the sake of his college, but for the sake of posterity.

This is a great nation, but unless signs fail, it is soon to be a greater one. The individual who can take all of the forces that are now working for man's redemption and correlate them into an organic whole and give them true direction will become a perpetual hero. It seems to me the place to begin is to give all-around development or balance activity to all the children, all the time.

In evolution natural selection tends to perpetuate the fittest. But this law does not hold in human evolution. There seems to be a higher spiritual law in which man steps in to modify natural selection. We protect the weak and cause them to survive; we kill off the strong thru college athletics, thru commercial greed and thru war, or thru one-sided development destroy their posterity. The fittest in human civilization are those who care for the weak, but because of this extra burden do not, as a rule, perpetuate their kind. To this class belong many of our teachers, college graduates, and brain workers of the highest and most altruistic type.

William Orr, Mass. State Board of Education, Boston, Mass.—It is a great satisfaction to see things actually brought to pass. Such accomplishment is the best test of the value of any theory. Many of those before me rejoice because of that which they have done in carrying out the principles of physical training of which we have heard this morning; that positive results, not only in physical development, but in mental and moral growth, can be testified to by any competent, wise director of physical training. There is place for this phase of education in all grades of school work—primary, elementary, and secondary. In the later stage of instruction, when there is such a marvelous growth of the activities of the human soul, it is especially important that every influence should be brought to bear, in order that these activities may be rightly directed to the best ends. Such service, the physical director for boys, and the one who has this charge for the girls of the high school can render in full measure. For one thing, the director of sports and games has it in his power to do away almost at once with the low device, trickery, cunning,

and ungentleman-like conduct that too often characterize school contests when left to the boys themselves.

But there are positive values to be achieved in the promotion of physical vigor, in the development of self-respect and the sense of power whereby many a boy, slow of mind, thru his success in field sports and games may be stimulated to better work in the classroom.

Finally, there are values in morality to be secured. By the proper development of team spirit, the individual may be taught in a most effective fashion to subordinate his selfish aims and purposes for the good of the organization. Herein may be found an important means whereby the school may influence directly the tone and tenor of national political life.

Ambassador Bryce has noted the fact that often the current of a national thought and conduct, as expressed in its political activities, is influenced by causes that would at first sight seem to lie outside the domain of public life. He further stated that if the present interest in athletics was to continue and to grow, the ideals dominating sports were likely to affect very materially the attitude of citizens in respect to public duties. Fine and high ideals of manly, clean, vigorous sport may then do much in promoting a purer, finer, and more devoted citizenship—one of the greatest needs of this land.

Ernst Hermann, director of physical education, Cambridge, Mass.—It is indeed a great satisfaction to us physical educators to have these gentlemen make these sweeping statements in favor of more motor training in our schools. For this is truly preventive medicine, and the credit for this belongs to the teachings and the propaganda of the physical education profession. It is preventive medicine on the one hand, and on the other hand our only hope for future intellectual capacity.

From whatever side we look upon physical education, be it the hygienic or the educational, we must provide more and more motor opportunities for the growing child if our education for service is to be a success. The more complex education becomes, and the more the child lacks opportunities for motor experiences which formerly existed in the home and the environment, the more important motor education becomes, if intellectual progress is to be maintained.

Physical education has at least these three important school functions: the hygienic, the general educational, and the physical training. The demands of hygiene are met if we provide plenty of muscular activity, fresh air, and sunshine; the rest belongs to the medical department. Physical training is necessary because counter-influences must constantly be exerted in order to prevent crooked growth of the frame, which must result from one-sided sitting occupations.

From a general educational point of view the need for more motor education is constantly growing, because there is less and less opportunity for acting out with the muscles that which the senses perceive. Our children lack a well-developed motor area at the time when we are attempting intellectual training. Without a well-developed motor area intellectual development is limited. Attention, sustained effort, the characteristics of a strong will, and the civic virtues, can better be developed thru properly organized playground activities than thru present-day school methods. With children the value of motor training lies half in the hygienic field and half in the educational field. Later on in life the hygienic value predominates.

I am delighted to hear Mr. Balliet admit that reading and arithmetic might well be left out during the first two or three years in the school. I should, however, go further and make the playground under the direction of the school the only education until the child reaches the seventh or eighth year, and make it half playground and half school-education until he is about ten years of age.

To one statement of Mr. Balliet I wish, however, to state my most decided objections,

and that is the one about the non-value of formal gymnastics, or as he calls them "man-made exercises." I believe he contradicted himself in his remarks when he states, later on, that skilled labor produces a higher intellectual capacity than unskilled labor.

I do not want you people to leave with the idea that plays and games and dancing are all that is needed in physical education. These forms of motor activities have a high therapeutic value and could meet possibly all the demands of hygiene, but in a school system of motor education they are by no means sufficient to meet our most important needs of today. But in order that physical education may become more than only a measure of hygiene, in order that it may meet the motor-educational needs of the child, the systematic training from simple to complex exercises is absolutely necessary.

Formal gymnastics are our most powerful pedagogical aids; only thru these means can we develop skill, self-reliance, attention, co-ordination, confidence, etc., which will enable the child to enter into all the physical activities of his fellows.

Nor must we forget the sad fact that, in our present-day school accomodations and in the present-day life, the necessary room for most forms of established recreation is lacking. "Man-made movements" are today a most efficient solution of meeting the demands of hygiene. We must teach our people means and ways to take care of themselves in the environment and under the conditions under which most of them are forced to live. Most people today would enjoy better health if they interrupted their work habitually by some form of formal gymnastics. It is high time that our educated men and women and especially our teachers should appreciate the necessity of their taking up some such form of "man-made exercises," as a matter of daily routine.

PHYSICAL EDUCATION OF GIRLS DURING CHILDHOOD AND PUBESCENT PERIOD, OR UPPER-GRAMMAR AND LOWER-HIGH-SCHOOL AGE

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Much has been said and written concerning the physical education of boys during the periods of childhood and adolescence. What should be done for girls has not received deserved consideration, probably owing to the fact that investigators of the subject have been teachers of boys rather than girls, so that fewer observations have been made and statistics collected concerning this sex. The whole subject is a complex one demanding experience with and a thoro understanding and appreciation of the growing girl.

There is no doubt that as compared with boys, girls are in even greater need of all the benefits which are to be derived from a wisely planned, thoroly executed, and complete course in physical education. It has been stated by an orthopedic surgeon in a hospital for children, that "of the children who apply to the hospital in consequence of physical developmental defects, hardly more than 5 per cent. are boys." In other words, about 95 per cent. are girls. Comparing the health of girls with that of boys, from statistics taken in Copenhagen and Lausanne, it was found that the girls kept far ahead in percentage of sickliness, during all the years of childhood and puberty.

When we consider that the foundations of the health of women are

being laid, women who are to take as never before an active part in the world's work, and that the strength of a later generation depends upon the vitality of the girl who is to become the future mother, it is to be regretted that we have not greater knowledge of what constitutes the best physical education for girls.

We know so little of the actual strength and resisting power of either the boy or the girl during the different stages of development that it is impossible to base a thoroly scientific system of physical training upon that knowledge. We do know, however, that following a period of preparation beginning at about the age of nine or ten a gradual change comes into the life of the girl. This whole epoch, the years of late childhood and puberty, may be roughly estimated as being between the ages of ten and fifteen. I shall use the term pubescence to mean a period beginning about one year and a half before menstruation and ending about a year and a half after menstruation, in all a period of about three years.

The age at which menstruation begins varies in different localities and is influenced by social conditions. From statistics collected in the Washington schools it was found that the average age was thirteen years and four months, which was also the average age of girls in the seventh year of school life or two years before entering the high school. We must allow, however, for precociousness and realize that some girls begin their functional life somewhat lower in the grammar grades, which fact must be taken into consideration when planning work for these grades.

Let us impress upon our minds three general requirements which are essential if we would have an adequate and scientific system of physical education. These may be briefly stated as follows:

First: There should be an adaptation to the stage of physiological development.

Second: There should be an adaptation to the individual, taking into consideration his physical and mental condition as well as his personal needs.

Third: There should be an adaptation to the sex.

Few realize how important in the life of the individual is the time of late childhood; that the future will be influenced for good or bad, depending upon what is done in these frequently neglected years. The age of about eight appears to be a critical time of least resistance to disease, the curve of sickliness gradually decreasing, to rise again sharply at about the age of thirteen.

When puberty beings, there is ushered in a period of great physiological changes, rapid growth in height, followed a year later by marked increase in weight and girth with a corresponding increase in weight, structure, and functional power of the heart, lungs, and reproductive organs, continuing for three or four years. Since growth in height begins in the bones, muscles do not quickly adjust themselves to the new length of levers, causing awkwardness, and physical weakness. There is likely to be listlessness, apathy, and a dislike for much physical activity. While there is great

morbidity, as shown by frequent headache, anæmia, and loss of appetite, yet during these years the death-rate is suprisingly low. There also exists an unstable nervous condition of which stuttering and hysteria are manifestations. The period is indeed a critical one upon the successful passing of which will depend future health.

As compared with boys, the subject is to be studied from a somewhat different viewpoint, bearing in mind that it is girls, with all the potentialities of future women, whose lives we are influencing. We should strive to know the mind and soul of the girl, which requires rare discernment, great sympathy and appreciation. Her whole physical education may be summed up in what a girl at each stage of her development should be and what she ought to know how to do.

What then are the *needs* of girls in the upper-grammar and lower-high-school grades?

The *first* demand is for health and vigor, for which reason, whenever possible, work should be taken *out-of-doors* with daily regularity and those exercises chosen which increase vitality and have to do with functional health as well as health of mind. These would include all the great motor activities of walking, running, throwing, skipping, jumping, and whenever practicable, climbing and swimming. We will indeed have done a great work if we instill in the minds and muscles of the young a love for the pleasures of physical activity and have created a habit of exercise.

Since the muscles of the abdomen, waist, and back are those in which women are notably weak, probably due to inheritance and partly to custom, in the choice of exercises those which bear directly upon these parts, strengthening them, are specially desirable.

Above all, there should be cultivated the hygienic habits of simple deep breathing at all times, an erect carriage of the head with the thorax held at its greatest height permitting free play and proper functioning of internal organs.

The *second* great need is educational in character and consists in the formation of right habits of action by proper training of nerve centers. It includes not only those things which count for present efficiency, but also those which enhance the power to accomplish results later in life. It is really a training in skill and power to do, not only now, but in years to come. It is this training for complete and successful living which makes all such work truly educational.

Such a training of the nervous system giving physical control is specially desirable in girls whose emotional nature makes them liable to yield to weakness along this line, interfering with and preventing a well-balanced nature.

Our girls should be taught how to perform the simple daily activities of life with ease and grace, and in a manner conducive to health. These include a good carriage of the body at all times, going up and down stairs

with lightness and an erect carriage, walking with a free swing of the leg, graceful rising and sitting, and good posture while sitting.

The *third* need is for recreative exercises. These offset the mental strain of prolonged school work, which is the rock upon which many a young life has been shattered thru injudicious teachers and ambitious parents, the healthy and normal course of development being hindered by long hours of sitting and poring over books.

The *fourth* need is for corrective gymnastics given for the purpose of overcoming certain postural defects which can frequently be traced to the school. Such exercises by reason of their purpose will of necessity be specialized and technical. It would seem that the earlier pre-pubescent years are those in which we can most effectively work to change bad posture.

The question arises as to what *kind* of exercises are best suited to girls. The ideal exercise gives rise to pleasurable feelings which, thru nerve stimulation, have a reflex effect upon the body. Besides the psychic effect, there is the favorable one upon the entire organism, influencing the whole group of organic functions, increasing the circulation and causing exhilaration. As a general rule, movements which are natural and which follow the lead of personal interest will be most successfully performed and have the best effect hygienically and mentally. This psychological fact is acknowledged to be true in all teaching. The element of interest in the thing done, the pleasure and joy of doing it, make for the successful doing. For this reason a cross-country walk under favorable conditions, and with opportunity for social intercourse, is ideal in many ways as an out-of-door exercise. If there can be added to it a purpose, an end to be reached, the walk is increased in value on account of the effect of the mind upon the body. It is in answer to the demand for purposeful joyful exercise that folk dancing has come into vogue as a delightful form of physical exercise.

Spirit and interest in execution of any exercise are most essential, which fact should guide us when choosing suitable exercises. There must be some appeal to the individual to make the work seem worth while. It is possible to interest a girl in a good carriage of the body, if she is appealed to on the side of her pride, her æsthetic sense, or her desire to be beautiful.

Many teachers of girls fail to take advantage of the recreative possibilities of exercises and strive for too much discipline. The expression of the face of the pupil is an index of the inner feeling, which ought to be one of content and delight in work well done. In no other way will physical exercise during school hours give that relief from the high nervous tension of the classroom which is one of its greatest opportunities for good and one of the reasons for which it has rightly been co-ordinated with other lines of school work.

Exercises to develop great strength are not necessary. Moreover, signs of fatigue should be carefully noted as designating the time to change work. This period of accelerated growth lessens the power to resist fatigue.

It is in the first year of functional life that great harm can be done, even more than in the earlier or later periods. Movements may be done rapidly, but not to an extreme degree, nor for too long a time. It is generally agreed that girls should be excused from strenuous physical exercises at certain times during the month. In all the work, however, precision in execution can be obtained from girls as well as from boys. We can and should demand the best of which she is capable and not fall into the way of coddling and being over-sympathetic.

In the upper grammar grades I would have more games than are generally given, and even encourage the girls to play those which are generally considered boys' games. It is surprising to find how many at this age delight in the modified game of baseball. This has been shown upon the playground, and would tend to prove that custom has much to do with the notion that certain games should be played by boys only. In the strenuous and more violent games, the sexes should be separated, the girls indulging in lighter forms of practically the same games.

In the early high-school course, certain athletic pastimes, or what are referred to as outdoor sports, can well afford to have a prominent place. It has been claimed that to a certain degree girls lack sociability, a sense of fairness and justice toward each other, do not work together, do not organize, and finally that they lack loyalty. These social qualities necessary for the civic good can best be cultivated by means of team games. But not until girls have reached maturity should they be permitted to engage in feats or contests that demand extraordinary strength or endurance. These cannot be done at this earlier period without grave danger of taxing the heart, possibly resulting in a condition of heart-strain later in life. Track and field events demanding great muscular effort in short periods of time, such as long-distance runs, would better be omitted. The standing broad jump is also undesirable for fear of displacing internal organs.

Since there is danger resulting from overwork in athletics and team games, let us stop to consider how far we dare let girls enter into competitions which give rise to exhaustion. A few general propositions seem to me wise if we are to safeguard our girls from the physical evils which may result:

First, all girls entering into competition should be examined by a physician and a certificate given stating the condition of heart, lungs, nerves, and general health at that time, to the end that only those physically able may participate.

Second, close supervision on the part of a woman instructor who knows the physical condition of the girl and will prevent her from participating in competition at times of temporary disability.

Third, actual observation of the reaction occurring after a normal period of rest following unusual exertion.

Fourth, another physical examination by the physician made after a number of months of strenuous work to note what body-changes may have resulted from the athletics indulged in.

Fifth, personal instruction concerning the danger of excessive fatigue.

The foregoing propositions refer to the physical care of the individual girl who wishes to enter certain competitions likely to cause exhaustion on her part, for we know that this condition may depend upon the girl herself rather than upon the event.

If a record were kept, it would go far as a matter of statistics toward solving the problem as to what competitions are safe and sane for girls of a certain age. By closer study of the effect upon large numbers of girls we may be able in time to agree upon certain standard games.

It is true that any athletic sport carried to excess may result in exhaustion. But in strong competition the desire to win keeps the girl keyed up to the highest possible nervous tension, making her willing to go to the point of extreme fatigue all unknown to the instructor. Specially strong is the temptation if admiring friends are present to view her failure or success.

There are certain methods by which the probability of exhaustion may be lessened. Among these may be mentioned,

1. A longer period of rest between rounds.
2. A shortening of the length of time for exertion.
3. Increasing the age and weight limit of the contestants.
4. Various methods of relays.
5. Making the events group events, instead of individual events.
6. Lessening the degree of effort necessary to score.
7. Private competition rather than public.

By such methods it is possible to have all the fun, the pleasure in activity, the joy in effort, and success itself, before the arrival of a condition of exhaustion.

DISCUSSION

Laura S. Plummer, head of department of Physical Education, Boston Normal School, Boston, Mass.—Girls entering the high school where physical education is a part of the curriculum are expected to spend from one-fifteenth to one-twelfth of their time in the gymnasium. What are the returns? For the purpose of getting the required information, eighteen physical-training teachers, one hundred and fifty-four high-school students, and forty-six mothers of high-school students have been asked to answer questions relating to carriage, breathing, strength, headaches, backaches, colds, the menstrual period, self-control, out-of-door exercise, and favorite forms of gymnasium work.

Teachers, students, and mothers agree that as a result of gymnasium work the girls are more erect, have greater breathing capacity and self-control, and fewer headaches and colds. The testimony from the three groups is strong that gymnasium work has led to outdoor activity. If girls by reason of the vigor obtained by formal gymnastics care more for walking, the outdoor activity most accessible to the majority, it cannot be said that formal gymnastics have no place in physical training. A majority of the physical-training teachers believe that gymnasium work improves the condition at the menstrual period. Only a very small percentage of girls is conscious of improvement at that time. About one-half of the mothers failed to answer this question. If mothers would note the effects of physical training on this function, and place the results of their observation at the disposal of teachers, physical training during the pubescent period would be placed on a basis which would lead to the development not only of strong women, but, what is of more importance to the race, strong mothers.

Many girls are glad to have had gymnasium work because it was "fun." Some think they study better on account of the work, and others that it relieves them after sitting all day. One girl says: "That is about all the exercise I get in winter, and I think it does me good." A mother writes: "As for winter, I think it would be a good deal better if more time were taken for exercise as girls of this age get in the habit of staying indoors in cold weather." Health seems to be a secondary consideration, as is to be expected from the young and vigorous. An erect carriage is desired because it looks better. Short girls hope that gymnasium work will make them taller, stout ones that it will improve their figures. This interest in appearance could be profitably worked by showing that a healthy girl is usually a charming one.

As mothers and girls give apparatus work as the most interesting form of gymnasium work, we might call this "the age of apparatus work for girls." We should seize upon this interest, giving it a fair chance and using it to stimulate pleasure in other forms of exercise.

Do the answers returned give us light on the effect of gymnasium work on girls of the lower-high-school age, and do they point to any means for making this work more effective? In many cases the answers of the girls and their mothers may not be of scientific value. They are too few, too brief, perhaps too acquiescent. They do, however, represent impressions, and impressions lead to popular opinion. The questions sent to those most concerned, high-school girls and their mothers, must have made them realize that gymnasium work is not for fun, merely, altho that is extremely desirable. It calls their attention to the fact that physical-training teachers are earnestly endeavoring to produce definite improvement in the health of their pupils. Could not the attention of students be brought to the same focus by lessons in hygiene closely connected with their gymnasium lessons? Students need to learn how to recognize the signs of health, and how to maintain health at the highest standard. If they can be made to see that health must be maintained not by gymnasium work alone, but by that plus hygienic living, a great step forward has been taken.

Four means are suggested for changing these favorable impressions into intelligent judgments:

1. Increase the weekly lessons in physical training from two to five.
2. Reinforce the gymnasium work with the formation of right habits of eating, sleeping, and outdoor life.
3. Require for promotion a better physical condition as shown by a better carriage, clearer skin, better breathing, and greater self-control.
4. Secure the presence of mothers in the gymnasium and have conferences with them. An interchange of experiences between teachers and mothers would be of very great value in the training of high-school girls.

It has been said that "living is our business." Let the gymnasium work be so strengthened and improved that it will help the high-school girl to the most efficient living.

THE PHYSICAL TRAINING OF POST-ADOLESCENT GIRLS

ELIZABETH A. WRIGHT, DIRECTOR OF RADCLIFFE COLLEGE GYMNASIUM, CAMBRIDGE, MASS.

If the emphasis in the training of girls were put upon the formation of correct physical habits during childhood, when these habits are most easily established, and if mothers and teachers were more generally alive to the importance of wise guidance during nascent periods, the problems connected with the physical training of post-adolescent girls would be comparatively simple of solution. Habits formed early in life are tenacious and for good or evil are bound to influence profoundly the conduct of later years.

A healthful effort toward the establishment of these habits on a good basis is manifest in the encouraging and progressive features of our modern educational and philanthropic activities—in the public milk stations, the playgrounds, the work of boards of health, college settlements, and social-service organizations. The connection between individual and social health and individual and social efficiency is becoming more and more patent to people generally. We realize that we cannot allow our young girls to grow up to womanhood ill-informed about themselves, indifferent or ignorant as to individual or public health, and insensible to the need of preparing themselves adequately for the responsibilities which await them.

When they have so grown up physical training must do what it can to make up for lost time; it must provide not only opportunity for development but stimulus and guidance as well.

The average high-school and college girl possesses a fair physical equipment, and if she has applied a moderate degree of common-sense to her daily conduct not infrequently completes her course in a better condition than when she began it. There is need, however, that she should have not only enough vitality to keep her afloat, but a superabundance that shall launch her into a career, high-hearted on the crest of the wave, abounding in life, energy, courage, and devotion. How far a lack of physical training in the past or a present indifference to its demands accounts for the fact that this is too infrequently the case, it is hard to say; but the prevalence of preventable physical defects that make against abundant vigor indicates that these factors are to some extent responsible.

We encounter every day weak hearts, poorly developed lungs, disorders of nutrition, crooked backs, and stooping shoulders, which too often indicate that something went wrong during the period of body-building when all other activities should have been subservient to this great physiological process. Imperfection is apparent not only in those obvious motor reactions expressed in posture, gait, and deftness, but the misuse of the voice, slovenly articulation, and lack of proper power of inhibition, often give evidence of a want of training in those motor mechanisms which are the instruments for the expression of the emotions and the guardians of self-control.

When none of these conditions is present, physical training is largely a matter of prophylaxis, but otherwise it provides for girls of this age a last opportunity to repair the effects of the ignorance or misdirected effort of former years; to substitute good motor habits for bad ones, and develop those organs which during their nascent periods got cheated of a fair show. If the harm already done be irreparable it further suggests possibilities for making the best use of a defective body.

Tho the content of a course in physical training must vary according to the strength and temperament of the individual, and environment influences must always be taken into consideration, there are certain aspects of such a course that apply to all and that are fundamental in character.

There is need that all girls who are mature enough to think intelligently about their relations with their fellow-men should be given a basis for reasoning grounded on biological law. If they are made to see that as a part of organic nature they are subject to the same laws that operate and control all other parts of organic nature; that the forces of heredity and adaptation are for them also compelling factors in determining their place and function in the world—they will be in less danger of regarding their training, physical or otherwise, as an end in itself, but rather as a means toward the great end of race development. Each girl who succeeds in perfecting that adjustment to her surroundings which results in health is thereby contributing to the welfare of the race, and has to this extent justified her existence as a factor in the developmental scheme of the universe. To a peculiar degree this adjustment is important for women, since the schoolgirls of this generation are to be the mothers of the next generation. From a biological point of view a training that does not prepare girls to meet intelligently the responsibilities which this fact implies is missing its point.

In the increased number of opportunities which open out to a girl in her high-school and especially in her college years, and in the assumption of new duties and greater independence in directing her own activities, she must consciously or unconsciously take a measure of her own limitations, decide what she can most profitably do and what she would better leave undone—select, discriminate, test, and define to herself pretty clearly the conditions of her environment. In effecting the necessary adaptation to these conditions, a process which is so potent in determining personal efficiency and racial progress, she needs guidance; and it is for this reason that the study of hygiene may be of great value to her. I say, advisedly, however, that it *may* be of value to her, because, unless its principles are properly presented and actively applied to the conduct of everyday life, it may readily be quite ineffectual. It is essential that this subject should be presented truthfully, with a discriminating recognition of personal variability and power of adjustment, and with a degree of tact that shall really stimulate to healthful living, not lead to morbid self-consciousness. Above all, the practical application should be insisted upon; if the girl is not guided to apply the teachings of science to herself, and to the community of which she forms a part, or if the conditions of home or school are such as to render it impossible for her so to apply them, nothing or next to nothing can be accomplished.

When, however, suitable conditions are fulfilled, hygiene evidently forms the logical basis for physical education. While all the factors which make for greater vitality and economy of force—rest, nutrition, mental outlook—come within the scope of such training, the emphasis which it is customary to put upon the training of the motor mechanism in this connection is justified, since directly or indirectly muscular exercise bears a close relation to all these factors of healthful living. Moreover, as thru

muscular contraction the emotions and the will are expressed, as "Character," according to Dr. Hall, "might in a sense be defined as a plexus of motor habits"—the importance of this training as a preparation for a home, business, or professional career is manifest. While the form which it should take must depend largely upon the special need of the individual, and while physiological rather than chronological age must be mainly considered, the status of growth and development which the post-adolescent girl has usually reached is suggestive in determining the limits within which we may safely and beneficially employ strenuous exercise, and in indicating to what extent we may hope to influence conditions which are the result of faulty growth or incorrect motor habits.

In general, the heart having completed its growth in volume is now getting stronger; the caliber of the arteries is small in relation to the heart, and blood pressure is high; the lungs during the early part of the period at least are still increasing in volume. Growth in height and weight is practically completed. The vital organs are less liable to strain than during puberty and should be capable of considerable endurance. If, therefore, premature demands upon their strength or inadequate nutrition have not weakened them, the vigorous sports and competitive games which are apt to appeal to a healthy girl at this time are not only appropriate, but under proper conditions of selection and supervision may even constitute a sufficient motor training in themselves. In addition they are to be strongly recommended for the ethical qualities which they tend to develop, and for that desirable objective character which robs training of self-consciousness by turning attention from the body itself to the aim to be accomplished. Where there is weakness in vital capacity, altho the periods of accelerated growth during which development may be most easily influenced by external conditions has passed, play and sports of a milder nature, and dancing which demands continuous moderate exercise under favorable conditions for free respiration—in short, exercises which stimulate without straining—are capable of effecting much. It is of the utmost importance that such remedial meaures be employed while there is still some degree of plasticity. In this connection the peculiar advantages of formal gymnastics must not be overlooked, as in the enthusiasm over the ethical and physical development which play presents there is some danger that they may be. Dr. Goldthwaite has most convincingly shown how close a relation posture bears to health, efficiency, and economy of force, and tho at the post-pubescent period when growth in height is practically over, less can be done to correct faults of posture, and that at a greater expense of time and energy than during periods of accelerated growth, the outlook for improvement is getting steadily less hopeful. Persistent effort at this time is therefore of especial significance. Under these conditions a period of self-consciousness is essential. Attention, for a while at least, must be concentrated upon the body itself. The objective forms of exercise must be supplemented by the sub-

jective, the work element take precedence over the play element, until new nervous connections have become established and the tissues have accommodated themselves to changed conditions. Formal gymnastics are of undoubted value for supplying such corrective effects where faults of this sort are already present, as well as for combating the evil tendencies which sedentary occupation is likely to develop during student life. Therefore, apart from the training in complex co-ordinative processes which they involve and the practical efficiency of their practice from a hygienic point of view, they form a very important part of any complete scheme for physical education.

Perhaps, however, the greatest problem in connection with this subject is how to make girls realize that this part of their education is a matter of real moment to them. Too many of them at present are ignorant of, or indifferent to, the fundamental nature of the issues at stake. It is an obligation which we owe to society, as well as to the individual girls, to rouse them from this attitude of indifference, and help them to a juster estimate of values in the apportionment of their time.

The position which schools and colleges take in regard to this part of their curriculum is perhaps the most potent factor in directing and controlling public opinion among the girls.

Unless the work of physical training is dignified in their eyes by an official recognition on a par with that accorded to academic branches, it is hardly to be expected that they will grasp its significance.

When, however, poor carriage, inarticulate speech, carelessness to the demands of personal or community health, are considered as legitimate causes for censure, and count as definitely against school standing as laziness or inefficiency in other departments of the curriculum, the way will be cleared to make girls see that loyalty to school or college, no less than obligations to their fellow-beings and to generations yet to come, demand that they should not only know how to live healthfully, but put their knowledge to the test, and so prepare for a stronger, saner, and wiser race.

DISCUSSION

Lillian M. Towne, assistant supervisor of substitutes, Boston, Mass.—It has been said that "problems connected with the physical training of post-adolescent girls would be comparatively easy of solution, if correct physical habits could be formed in childhood." I believe this is partly true, and most heartily agree that habits of posture, of cleanliness, of breathing, and of room-ventilation should be grounded in the elementary school, and continued all along the line.

But children and girls of high-school age are imitative. They do most readily, not what the instruction, but what the positive example of their teacher inspires them to do. Therefore, if habit reactions are to become automatic, easy, and certain in the post-pubescent period, it follows, first, that each one who believes in hygienic-habit formation is bound to see that in *his* schoolroom, the hygienic thing is done rather than talked about; and second, that such formation of health habits shall constitute a vital asset in a child's advancement.

It is good that the four years of college training mean a steady advance in health and vitality for the college girl. But the subject for discussion as I read it is "Physical Education of Girls during *Upper-High-School* as well as College Age." That is, it is physical training, not simply for the highly educated girl, but for *the girl*. Thus, excluding the Girl's Latin, a canvass of the girl graduates from six Boston high schools, shows that the majority are turning toward normal school or immediate work rather than college.

So the question becomes paramount, as to what shall be the *aim* of physical education for *the girl*, who is not to be subjected to the regular routine and to the sane, pleasant atmosphere of college life—both essential factors in advancing health and vitality; but who, instead, is to be plunged into the stress of earning her livelihood before the years of college maturity are attained.

For these girls, physical education, in the upper high and normal school, should do three things:

First, it should reinforce health habits related to the girl's physical development; second, it should give staying power and nerve endurance, essential in every type of occupation; and third, it should create such an interest in some form of exercise, compatible with the hours of a working day, that *the girl* will continue it after she has left the supervision of the physical training teacher.

The Y. W. C. A. is doing this for many working girls. The folk-dancing classes will touch others. But there is one line of exercise, namely, walking, that may form a part of every day's program; and that is effective in making for nerve endurance, if, according to Dr. George L. Walton, the incentive applied has been strong enough so that it will function almost as a hobby, when the novelty has passed off.

So I believe, as suggested by the director of hygiene in Boston, that, in the upper high and normal school years, a vast amount of good could be accomplished for masses of girls going to work, if physical-training teachers would co-operate with the drawing department in its outdoor study of architecture and of vistas, and with the biological department in its study of gardens, birds, and trees. For we know how the enthusiasm of the nature-lover makes him note the season's changes in street or yard, takes him to the common, to the park, to the fields, where, in the influence of sunlight and of fresh air,

> The foolish fears of what may happen,
> I cast them all away.
>
> Where ill thoughts die and good are born
> Out in the fields with God.

And, because contact with nature makes for health and nerve endurance, I urge the motivizing of walking as a part of the physical-education equipment for girls in upper high and normal schools. For is it not this lack of balance that makes the young worker, filled with enthusiasm for her work alone, break where the older worker, with other lines of interest than her occupation, goes on to years of effective service?

And, as indicated by the speaker, may not the lack of interest shown by many college girls in sports and games, as well as in formal gymnastics, be due partly to the fact that these older girls fail to see the value of these agencies as applied in daily living? For physical education will help the masses of post-pubescent girls, not because it is a subject in the curriculum indorsed by the authorities; but because its practical application appeals to them in making for efficiency in the daily exigencies of life.

MOUTH HYGIENE IN PUBLIC SCHOOLS

WILLIAM H. POTTER, D.M.D., PROFESSOR OF OPERATIVE DENTISTRY, HARVARD UNIVERSITY, CAMBRIDGE, MASS.

(*An Abstract*)

Interest in the mouth hygiene of school children earliest developed in Germany. In 1902 a school dental clinic was established in the city of Strassburg by Dr. Ernest Jessen. Interest in the work has developed in Germany until now there are about forty school dental clinics scattered thruout the German empire.

The work has spread into Sweden, England, and France. The first school clinic was established in Sweden in 1905.

In and about Boston the most systematic work has been done in the town of Brookline. There in 1906 a systematic examination of the mouths of children in the primary and grammar grades was begun. All defects were recorded and parents notified to take children for treatment to their family practitioner or to the infirmaries of the two dental schools. School nurses assisted in taking young children to the infirmaries and staying with them during operations. A systematic line of instruction was begun to interest parents and children in such care of the teeth as would tend to prevent loss by decay.

Pictures of dilapidated, foul mouths were shown by Dr. Potter and the influence of such mouths upon the physical welfare of children was described. Methods of making examinations and recording the results were shown in detail.

The establishment of the "Forsyth Dental Infirmary" for the care of the teeth of school children in the city of Boston was spoken of as an event of which the city should be proud. This infirmary has at present $500,000 as working capital, and will probably have more. It will be in practical operation in course of two years, and will be the greatest institution of its kind in the world.

The experiments of Dr. Lawrence W. Baker of the Harvard Dental School were described and pictures shown in illustration. These experiments with young rabbits showed that where there was a loss of teeth upon one side of the mouth during the first year, there was much loss of development in the bones of the skull. It was pointed out that probably there was a loss of development in the bones of the human skull if in their early years children were deprived of the use of a considerable number of their first teeth thru decay.

Finally, the work of the Dental Hygiene Council of Boston was described whose purpose is as follows:

The purpose of this council shall be to educate the public as to the necessity of keeping the teeth and mouth in a healthy condition; to teach the doctrine that dental decay can, to a large extent, be prevented; to promote dental hygiene in schools; to assist in establishing dental clinics for the poor; to aid in control and prevention of tuberculosis and other infectious diseases.

DEPARTMENT OF SCIENCE INSTRUCTION

SECRETARY'S MINUTES

OFFICERS

President—B. M. Davis, professor of Agriculture, Miami University.....Oxford, Ohio.
Vice-President—E. L. Brown, principal, North Side High School.....Denver, Colo.
Secretary—George A. Cowen, Science Department, West Roxbury High School...Boston, Mass.

FIRST SESSION—Wednesday Forenoon, July 6, 1910

The department was called to order by N. Henry Black, science master of the Roxbury Latin School, who had been appointed acting president by the Executive Committee of the National Education Association.

The subject under discussion was "Science Instruction in the Small High School."

The first paper was read by H. L. Terry, state high-school inspector, Madison, Wis.

The next paper was read by H. G. Russell, superintendent of schools, Greenfield, Ill.

The discussion of these papers was led by George R. Twiss, high-school visitor, Ohio State University, Columbus, Ohio. The other speakers were Charles S. Palmer, consulting chemist, Newtonville, Mass.; J. W. Hutchins, Malden, Mass.; Dr. Helen C. Putnam, Providence, R.I.; Franklin T. Jones, teacher of science, University School, Cleveland, Ohio; John C. Packard, vice-principal, High School, Brookline, Mass.; and Edwin H. Hall, professor of physics, Harvard University, Cambridge, Mass.

Dr. Helen C. Putnam introduced the following resolutions which were adopted:

Inasmuch as sanitation of school premises is a large factor in health and education of children, be it

Resolved, That the National Education Association recommends that training in the principles and methods of sanitary care of school premises be required of all janitors and superintendents of janitors; that provision be made for giving such instruction; and that where their appointments are thru civil-service examination it shall include examination in this subject. Be it also

Resolved, That a committee of five, to contain at least two specialists in sanitation, be appointed by the incoming president of the National Education Association to present at the next annual meeting of the Association outlines of courses for janitors and superintendents of janitors in principles and methods of sanitary care of school premises, and plans for instituting such instruction.

It was also voted that a committee be appointed to present the resolutions to the Committee on Resolutions of the National Education Association.

The secretary was appointed as that committee.

A report of the committee on the topic "The United States Government Materials That Are Usable in Secondary Education" was made by Wesley N. Clifford, head of commerce department, Southern High School, Philadelphia, Pa.

There was no discussion of the report.

The chairman appointed the following Committee on Nominations:

Edwin H. Hall, professor of physics, Harvard University, Cambridge, Mass.
John C. Packard, vice-principal, High School, Brookline, Mass.
Franklin T. Jones, teacher of science, University School, Cleveland, Ohio.

The department then adjourned.

SECOND SESSION—FRIDAY FORENOON, JULY 8, 1910

ROUND TABLE CONFERENCE

The second meeting was called to order at 9:45 by acting president N. H. Black, who introduced Mr. C. H. Robison, State Normal School, Montclair, N.J., who read a paper upon the subject, "The Relation of Departments of Science to Teachers in Elementary Schools."

The paper was discussed by Elizabeth V. Gaines, Adelphi College, New York, N.Y.; Edmund P. Churchill, head of science department, High School, Fresno, Cal.; Edwin H. Hall, professor of physics, Harvard University, Cambridge, Mass.; Florence J. Wordworth, Evanston, Ill.; Fannie A. Stebbins, Springfield, Mass.; Gilbert Random, Sacramento, Cal.; Ellsworth Bethel, Denver, Colo.; Fred H. Cowan, junior master, Girls' Latin School, Boston, Mass.

The second paper, upon the subject, "Practical Aspects of Biologic Science in School Administration," was read by Dr. Helen C. Putnam, chairman of Educational Section of American Association for Study and Prevention of Infant Mortality, Providence, R.I.

This paper was enthusiastically received and many questions were asked in regard to it.

The nominating committee made the following report:

For *President*—George A. Cowen, West Roxbury High School, Jamaica Plain, Boston, Mass.

For *Vice-President*—W. J. V. Osterhaut, professor, Harvard University, Cambridge, Mass.

For *Secretary*—Harry T. Clifton, Throop Polytechnic Institute, Pasadena, Cal.

The report was accepted and the chairman instructed to cast one ballot for the officers named in the report, which was done.

Upon a motion by Charles S. Palmer it was voted to express to the Local Committee the appreciation of the Department of Science for the cordial reception it had received.

It was also voted to express to Professor B. M. Davis the sympathy of the Science Department because of the recent death of his wife.

Upon a motion by Dr. Helen C. Putnam it was voted that a committee of three be appointed, with the privilege of inviting associates who are experts in sanitation, to report next year on Efficiency in Janitor Service in School Buildings.

The following were appointed: *Chairman*, Dr. Helen C. Putnam, Providence, R.I.; Fred H. Cowan, junior master, Girls' Latin School, Boston, Mass.; George R. Twiss, high school visitor, Ohio State University, Columbus, Ohio.

The department then adjourned.

GEORGE A. COWEN, *Secretary*

PAPERS AND DISCUSSIONS

SCIENCE IN THE SMALL HIGH SCHOOL

H. L. TERRY, STATE HIGH SCHOOL INSPECTOR, MADISON, WIS.

The title of the topic for this discussion is a hopeful one, for it clearly indicates a consideration of the adaptation of instruction to the individual needs and conditions of the school. Not that the work in a small school should necessarily differ from that in the large because it is a small school, but because its location is likely to be such that its environment, the experience of the pupils, and the educational values which will appeal to them are very different. If the large school has the same surroundings and interests the character of instruction should be the same.

Neither should it be assumed for a moment that the pupils in the small school, even tho it may be located in the backwoods, are inferior in ability to do science work to those who live in a large city. In fact, I am inclined to think that the difference will be found in favor of the country pupils. The great mass of varied impressions and the unnatural distractions of all kinds which come to the inhabitants of the city must have an unfavorable effect in the formation of the habit of giving that careful consideration to experiences which is necessary to store up a useful fund of information which will be available in study.

On the other hand in the case of the country boy or girl, the impressions, while just as vital, are fewer and are made over and over until they come to mean something; the round of daily duties, the contact with the favorite animals and plants, the few books read and re-read, with time and opportunity for thought and investigation, stimulate the interest and curiosity, and are likely, if the mind is at all receptive, to develop an inclination and capacity for study which will eventually lead to a high rank as a student.

The great mistake has been in the attempt to give alike to all, the city and the country students, the same instruction. The same texts, administered by teachers of practically the same training, are used in the high schools of Boston and New York, the forest regions of northern Wisconsin and Minnesota, and the prairies of Iowa and Nebraska. This no doubt has come about mainly thru the control of high-school work by colleges exercised by means of practically uniform entrance requirements. Added to this, the prejudice which has existed up to within a few years against science, and which still exists against any special study of its applications, such as agriculture, as a preparation for entrance to the literary courses, has strengthened the tendency toward uniformity. It has been assumed that such study could not possibly rank with the formal studies in giving power to carry on college work especially in the college of letters and arts. As a result of the prejudice there has come about the feeling, as strong in the country as in the city, that Latin and mathematics and history and literature constitute a sort of aristocracy of learning, and there is a corresponding unwillingness among very many of the very best pupils and parents to accept a course which is not allowed equal privileges with those courses made up of the old-line studies. I am sure this question of caste lies at the bottom of much of the disappointment in the work of science thus far. The constant effort to please the college authorities has had a detrimental effect on the nature of the work. On the other hand, if a degree of independence is assumed, it will too often be found that the leaders among the patrons of even the smallest country schools want their children to be fitted for what ranks highest, whether properly or not, in the college work; and as long as special subjects, even tho as important as agriculture, are not recognized as giving ability to do genuine college work they will fail to secure a strong foothold in the very schools best adapted to them.

If entrance to college can be made to depend upon the power of the individual to do the college work no matter thru what studies it has been gained, rather than as at present, upon the completion of a prescribed course, high-school authorities will feel free to teach science in a manner to suit the best interests of the pupils, and the discredit which now attaches to some of the most valuable work will disappear. In some way this must be brought about, or we may expect a continuance of the present serious and just criticisms of our high schools. I regard this question of preparation for college as one of the utmost importance in this discussion.

In the teaching itself there are three lines along which improvement must come. These have all been stated so often and are so old that they seem trite and commonplace, but they have a world of meaning to school inspectors.

The most important of all is the necessity of a comprehension by the textbook-maker, the teacher, and the pupil of a definite purpose in reaching a value which shall appeal to the student. After years of groping and experimentation we appear to be coming to a common belief that the great aim of science teaching should be to bring the student into a knowledge and appreciation of the natural phenomena about him, and to give him the power to recognize and deal with these phenomena under new or unusual conditions in an intelligent manner. Many teachers profess this purpose, but a careful questioning will reveal a startling absence of a definite aim either for the branch of study as a whole or for the different topics introduced under the general head.

For instance, I have lately found many classes in botany analyzing plants, and I have taken occasion to ask what analysis is for or if it has any value. Almost invariably I have found that the only value in the minds of the class, and apparently the only one thought of by the teacher as well, is merely that of identification; much as tho we were to study people by giving the peculiarities of appearance, black eyes, prominent nose, low forehead, etc., and end by saying this is John Jones, leaving the real John Jones with whom we must live and do business untouched. I usually close the discussion by asking how I can get certain information about some plant, the dandelion for example, putting my questions into as practical a form as possible. What peculiarities has the plant which make it a noxious weed? Can I get rid of it by preventing it from going to seed for a single year, or will the root be alive the next year to produce seed? Does it spread from the root? Has it underground stems? After all this questioning and broad hinting I have generally found it necessary to plainly state and illustrate the fact that the plant can not only be identified by analysis, but that almost any other desired information can then be found in the manual; in other words, that the purpose of the work is to be able to find out all about the plant. The most discouraging fact is that the ideas of both teacher and author are likely to appear as dim as to the wonderful value which may be developed

in this direction as those of the pupil. I do not wish to be understood as implying that there is not a great amount of good instruction being given, but that great impelling motives such as are found in manual training and commercial work are too often absent. In physics a great amount of time is worse than frittered away in the manipulation of delicate or complicated apparatus, in getting accurate measurements, or in working involved mathematical problems; in botany in attempting to use the compound microscope in a scientific way, or in memorizing meaningless technical terms and scientific classifications, a great part of which is merely diluted college work unsuited to the needs and capacities of bright country boys and girls. How different is the statement given by a successful Wisconsin teacher of what he thinks should be the purpose of botany, in his description of what his class is doing. He says:

> Instead of microscopic work and detailed drawings of minute parts of plants let the pupils be taught how plants grow, what plant foods are, where they are, how they get there, how the plants get them. Study the plants themselves so that the pupils know the plants about them, how they live, and their economic relation to man.

I shall not soon forget my visit to a class in the heart of a farming district, taught by a teacher able to make use of what the pupils knew or could easily find out, and who was using all out-of-doors as a part of her laboratory. They knew and could explain botanically why the farmers exercise so much care in separating the fields of different corn, why the strawberry-grower is careful to have plants of different species, and why plowing and harrowing tend to increase certain noxious plants. In short, they were being trained in ability to answer such questions as will come to them in their daily experiences at home as well as at school and they were becoming able to reach out beyond their immediate environments. They were in a questioning attitude, alert, thoughtful, interested. The botany was being well taught and power in many directions was being developed. "Simple work," you say! Yes, but work in which we find a woeful ignorance and for the lack of which we are sure to receive severe criticism.

Now, no textbook can supply the material or take the place of the teacher in making these applications of general principles to the immediate environment. It follows, therefore, that in order to do this work, which is being more and more insistently demanded, teachers must have, not, perhaps, a more rigid and extended, but a different training.

In order to be successful in teaching science in any school, and especially in a small high school in the country, the teacher must know his surroundings and must be alert, observant, and ready to apply the general law to the particular case. Many a teacher of science (and of other subjects as well) would be wonderfully strengthened if he would, for a time, throw away his texts and reference books, and make a study of the realities about him, aiming to fit himself for the actual conditions in which he happens to be and for which he may be utterly unsuited by study, training, or experience.

Those who train teachers must give more emphasis to the thought that adaptation of subject-matter to the interests and experiences of the pupils is absolutely essential.

Another direction in which there is great possible improvement is in the sequence of studies. There are many questions here. For instance, Is physical geography a suitable study for the first year? Should physics be required of all, or should it be an optional study? I am very much interested in the experiment which is being so generally tried in Massachusetts of giving a year to elementary science, physics, and chemistry, in the first year and placing physiography as an option late in the course. I especially hope to hear a general expression of opinion in regard to this in this discussion.

The present strong tendency in small high schools toward the introduction of courses in agriculture is well worth encouragement in the interests of better science teaching. Agriculture including, as it does, direct applications of botany, physics, chemistry, biology, and geology, gives the incentives which I have indicated as now being so greatly needed; that is, it provides values and makes use of common experiences and knowledge. Other lines of occupational training may be better suited to certain localities, but the general educational principles involved are the same. From these courses I look to see a reflex influence which will extend to all lines of school work, literary as well as scientific. I remember a visit to a school in which the boys in the industrial course were plying the teacher with practical questions relating to their work in the shops to his evident discomfort. His training had not prepared him for such emergencies and he was beginning to realize that something more was needed than what had come to him in his school laboratory.

In order to secure the best results for science, however, such a course must not be added wholly to the scientific subjects which we now have, but these must be modified so as to allow the new work to become largely a part of them. Thus the botany becomes botany and agriculture, the zoölogy becomes practical zoölogy and treats largely of the economic relationship of birds, insects, etc., the physics draws its illustrative material from the farm and the farm home or wider connected interests. In short, the practical applications should be largely specialized and brought into line with the particular interests which are being emphasized. In this way I am sure it is possible to put a vitality into the work much greater than has ever yet existed, without either weakening it from the truly scientific standpoint or taking an undue amount of attention from the other lines—history, literature, English, and mathematics—which are so essential to a liberal secondary education.

The course which, in its essential features, has been adopted in some of the high schools of Wisconsin and called a high-school course in agriculture, provides six out of the sixteen units of the whole course, or about one-

third of the whole time, for science and agriculture, leaving ten for English, mathematics, and history. The six are divided thru the years as follows, beginning with the first: elementary science, 1 unit; a preliminary study of soils, seeds, plants, etc., ½ unit; botany and horticulture, 1 unit; physiology, ½ unit; practical zoölogy, ½ unit; soils and crops, 1 unit; animal and dairy husbandry, ½ unit; farm economics, ½ unit; physics, 1 unit.

One danger which is already quite strongly in evidence in some quarters and which cannot be too strongly guarded against is that of pitching the grade of the work far above the maturity and ability of the pupils and thus bringing about a repetition of our experience with other high-school studies. We are just now passing thru a period of change in the direction of adaptation and simplification simply because of the attempt to determine the high-school course thru adjustment with the specialization of the college rather than to allow it to grow naturally out of the work of grades and out of the interests which will appeal to young people. Dilution of college work to obtain material for use in high schools has done mischief enough in the past to serve as a warning against a repetition of the mistakes in the introduction of these new and valuable additions to the high-school curriculum.

SCIENCE INSTRUCTION IN THE SMALL HIGH SCHOOL

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Man has invented many institutions to aid him in his progress and to help him to be a man. Chief among the institutions so invented is the public-school system, or institution of universal enlightenment. In earlier days life in America was simple, wants were few, and but little aid was required in matters educational, but as population increased and life became more complex, a demand was made on the system which man had invented to aid him for greater efficiency in the performance of common service. In answer to this demand the high school came into existence, and of its purposes and efficiency on the side of science I wish to speak.

As man's progress should be symmetrical and the pursuit of his ideals intelligent and consistent, the high school should lend itself to the solution of the problems with which man has to do. It is a significant fact that men have come to consider education as a thing that will help them to better their condition and to live fuller lives. They naturally expect the school to help them solve their problems, and as their important and most perplexing problems are largely material, the school must deal more accurately and efficiently with material things. The reasons for this are many and clear. This is a new, original, inventive, industrial age, intensely material, and any system that is to aid man must deal with the things that most interest him. In other words, they must stand primarily for these things.

1. *Greater efficiency in the performance of common service.* Service is the

test of man's worth and the only badge of superiority. "If a man can write a better book, preach a better sermon, or build a better mouse-trap than his neighbor, tho he build his home in the wilderness, the world will make a beaten path to his door." Better service in every avenue of life is the slogan of the hour and better education is the passion of the age. The controlling purpose of a great civilization is to eradicate those conditions which propagate pauperism, and to achieve that purpose the masses must be made more intelligent and efficient. If our progress is to be maintained in the face of increasing cost of living, it necessarily follows that man's power to earn and his capacity to make a living must be increased. As the high school is the school of the masses, training in useful activities must be pushed to the front in the high school as the only immediate means by which the efficiency of the masses may be increased.

Universal education is the first fundamental fact in a democracy and if it is to be maintained, educated girls must wash, sew, cook, scrub, and perform the menial services which are now performed by the uneducated. Educated boys must dig ditches, plow corn, construct highways and do all sorts of hard labor. Hitherto inferior individuals or races have performed the menial services; in the future the superior, forceful, educated people will perform these services by making the elements of nature, the material things, bear the burdens, perform the drudgery, and lighten the way of the toiler. Better acquaintance with the materials at man's hands will make his way easier. The school system becomes the desired aid to man when it prepares him to perform his part of the world's work with efficiency and ease, when it has trained him thoroly in some useful activity, and any activity is useful when it promotes human well-being. Hence, training in useful activity and for greater efficiency in common service is the fundamental fact of our high-school system.

2. *The more complete and practical development of the economical and social forces of the community, and a keener appreciation of the importance of the same.* A strictly first-class high school is training the masses, not only industrially but for all the duties of life; it is vocational to a helpful degree and cultural to a degree equal to the best colleges of forty years ago. While the dominant interest of the community may not be the fundamental fact upon which the high school should rest, the interest of the community, together with the drift of the race and its dominant interest, must form the basis for the course of study, if the high school is to perform the service which is expected of it. That the drift of the race is material and that the ideals are more largely conditions in life than formerly are apparent, and it necessarily follows that more material instruction, with a view to advancing the community in its dominant interest, must be given, and the logical place to give such instruction is the high school.

3. *A more practical and harmonious blending of industrial and cultural education.* There should be no antagonism between these two ideals in

education; it takes both to make a complete system of education. No man has a right to be a ruffian, nor has he any right to be useless. Useful activity and ethical culture are inseparable in the measure of a real man. Whether industrial or ethical, economical or æsthetical, while it is commendable to know, it is more commendable to do; while it is important that man should pursue high ideals, it is likewise important that he should know how to maintain himself and not be a burden on organized society. Prosperity is a strong ingredient of a healthy civilization. No great nation was ever built among an impoverished people. Material and remunerative vocations are as commendable and respectable as the imaginative and unprofitable ones. Notwithstanding the fact that our civilization is material, it is the best civilization the world has seen, and the whole people are busily engaged in reclaiming the soil, driving out disease, and beautifying their habitations. In these activities we see a harmonious blending of these formerly antagonistic ideals in education. The high school is the common ground on which these two ideals can be brought into a practical and harmonious working unit.

Science is the gateway to man's material prosperity and progress, and the modern high school should be equipped and able thru science to solve the community problems and contribute to the community's growth and development. Science is as strictly vocational as cultural, and as strictly cultural as vocational, but it is the province of the high school to make it serve man, bear his burdens, and brighten his way, rather than simply fit his sons and daughters for college. Let it be understood first of all that the purpose of the high school is to fit for life and not for college.

Now the character of the science work in the high school must be accurate and thoro, and the equipment must be sufficient to cover the realm of community interest. The laboratory must become the practical workshop in which are performed experiments in lines of utility which will equip the youth for better service. Disconnected experiments have little value. Purpose must be back of all work planned, and must be so wrought out as to form in the end a concrete unit in so far as the knowledge gained will be creative, productive, working knowledge.

Chemistry pursued by the lawyer or minister may be said to be purely cultural, but when pursued by the high-school teacher for the purpose of creating greater efficiency, it may be said to be utilitarian or technical. The chemical laboratory, like the physical, should be equipped with a single eye to the production of working, constructive knowledge, that those who pursue chemical and physical subjects in the high school may apply their knowledge to the advancement of the community. The difficulties in the way of these ideal conditions are poor equipment and incapable teaching force. As the teachers have not been prepared in the higher institutions to give such instruction, they know not how to satisfy the community on the science side. Hence severe criticisms have been directed, and justly too, against the efficiency of the modern high school. While

we are not in sympathy with those who would criticize the graduates of our high schools because they cannot run a department store or build a railroad immediately upon graduation, much of the criticism is just and sanely directed. The teaching force of our high schools should be equipped in the higher institutions with knowledge and skill in the sciences to be taught that will bring the community and the schools into a closer relationship and show the community wherein the schools have failed and how in the future the school will serve them better by a more accurate and thoro knowledge of physics, the laws which govern the application of force in machinery, by analysis of the soil, and informing the community what the soil needs to produce greater crops and increase prosperity; by producing that knowledge which will enable man to take more from the soil and leave the soil better, to perform greater service with less effort and prolong life with greater ease; by producing that knowledge which will diminish the mistakes, the sins, and the ills of mankind.

The community is ripe for just such an institution, and not until such instructions are given in the high schools will all the people feel that satisfaction with the schools which a free people ought to feel with the institutions which they have created to aid them. On the administrative side no objections will be made to creating such an institution; the funds may be had immediately upon convincing the public that such an institution will be operated in the community.

When the teaching force is made more efficient and the community is convinced that better work will be done, buildings will arise, laboratories will be equipped, and agencies set in motion which will revolutionize the educational sentiment of the American people. Now this does not mean that our schools shall be converted into workshops, nor that the cultural deal shall lose any of its educative value; but it does mean that our schools stand first of all for both industrial and cultural efficiency. They must build along humanistic as well as artistic lines. On the economical side they must produce wealth and construct means for its equitable distribution. On the cultural side they must produce ideals and sound thought, and construct character and men.

They must reduce waste to the minimum and increase production to the maximum; conserve the fertility of the soil, the wealth of mine and forest, and pass on to the generations the riches of Nature which are now held in trust by us. Facts first, and tradition and opinion second. Science contains the facts and is no part of tradition or opinion. With more accurate and thoro training in the sciences, longer time given to the subjects of physics, chemistry, and biology, and greater emphasis placed upon the practical side, the modern high school will increase, first, its material service to the masses, and second, its cultural value to all the people by making the way easier to high ideals. Thrift and prosperity, upright character and constructive men should be the output of a modern high school.

DISCUSSION

GEORGE R. TWISS, high-school visitor, Ohio State University, Columbus, Ohio.—The purpose of the high school in any community is to fit its boys and girls to know and interpret their environment, and themselves in relation to their environment, so that they may be able to use all their powers to the best advantage to themselves and the community in which they live. The small high school is the country high school, and in accomplishing its purpose its problems are the problems of the farm community.

School authorities all over the country are coming to realize that they must frame and administer their courses with reference to the needs of the pupils, without regard to college requirements, and the colleges must, and eventually will, adjust themselves to the new conditions.

Such an adjustment implies that every boy or girl who has successfully completed a four years' course in a high school where the needs of the community are properly met, and where the teaching is vital and effective, can find a place in college where he can go on with higher work in kindred lines.

Many of the small high schools fail to meet the needs of rural communities, and therefore fail to obtain adequate financial support, because their courses are built in formal lines, designed primarily to meet specific and conventional college requirements. In their attempt at meeting the needs of the community, they put in electives for those not aiming toward college, and thus so overburden their scanty teaching force that little really effective work can be done.

The most obvious remedy is to reverse the point of view and concentrate the course on things that have vital significance in the activities of the home, the farm, and the industries of the country town. Such a course is tentatively suggested below. It provides for the principles underlying industrial life and intelligent citizenship, with the greatest possible economy of teaching force. It provides a maximum of science, which should be taught all thru with special reference to agriculture and the economic life of the community. If the community is able and willing to employ another teacher for the four years' work in foreign languages and an extra year of English, it would be able to fit its students for most of the colleges that insist on that minimum. These five units could be chosen instead of those numbered 4, 8, 9, 13, and 14. Teaching force may be economized by teaching the following in alternate years: 3 and 7, 9 and 13, 11 and 15. If Latin is added, third, and fourth-year Latin may be alternated. Composition should be correlated with all the other subjects in the last two years, and practical and commercial arithmetic with all mathematics. This plan leaves space for four years of the sciences which underlie the farm and country activities, agriculture, housekeeping, domestic and personal hygiene. Illustrations of principles, practical applications and problems should be drawn more from the apparatus and materials of the farm and home and less from those of the research laboratory. Materials of each science that have significance in the everyday life and activities of the country community are the ones that should be chosen, not such things as measuring coefficients of expansion, tensile strength of wires, temperature-resistance coefficient, seven different methods for specific gravity, and the like. The extent to which practical work in agricultural science should replace the formal study of the various sciences must be worked out by the schools themselves.

Group	1st Year	2d Year	3d Year	4th Year
English	1. Rhetoric and Composition	5. Classics and Composition	9. Comm'l Law and Composition	13. Economics and composition
Mathematics	2. Algebra and Arithmetic	6. Geometry and Arithmetic	10. Geometry and bookkeeping	14. Science of Accounts and farm bookkeeping, with Commercial Arithmetic

Group	1st Year	2d Year	3d Year	4th Year
Science	3. Physical geography, atmospheric and soil physics	7. Botany and zoölogy	11. Chemistry and agriculture	15. Physics and agriculture
History			12. General history	16. American history and civics
Manual Arts	4. Drawing, manual training or domestic science and domestic art	8. Drawing, manual training or domestic science and domestic art		

The greatest need is for teachers so trained that they can work out science courses that will appeal to the community and will train the students to *think*, to *feel*, to *do* efficiently and wisely. Teachers who can do this will get from their communities the financial and moral support that is necessary. Higher-grade teachers and better equipment could be secured if two or three contiguous townships would suppress local jealousies and combine in supporting one strong high school with well-trained, well-paid teachers, and in furnishing transportation to it, instead of maintaining a number of weak ones. Centralization and co-operation constitute the road to true efficiency.

The colleges and normal schools must give more attention to the training of teachers, both prospective and in service, by co-operating with neighboring schools for practice teaching, by Saturday classes, by correspondence courses, by helping in the direction of teachers' institutes, and by issuing bulletins of information on the teaching of various subjects.

RELATION OF DEPARTMENTS OF SCIENCE IN SECONDARY SCHOOLS TO TEACHERS OF ELEMENTARY SCHOOLS

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With many of the five hundred thousand common-school teachers leaving the profession every year, it is evident that all of the graduates each year from the seventy-two thousand normal-school students, and from the nine hundred and fifty-five thousand high-school students together could scarcely supply the shortage in elementary teachers. When we remember that the number of high-school graduates varies from 5 to 15 per cent. of the total enrollment, we can better realize how true this is even if every high-school graduate became a teacher.

As most city grade teachers are graduates of high schools and often of training classes or normal schools as well, the plight of the country and village schools is much worse than an average that might be struck. Many of their teachers have had one or two years of high school, while some of the country teachers have not had this much preparation.

Like most high-school-science problems, the one stated in the topic of this discussion has two aspects, that of the city schools and that of the non-urban schools. In the large, their problems are not sharply marked off; in the detail, there are many important differences. City training schools and one- or two- year normal-school courses for high-school graduates have little enough time left, at best, for the facts of science or of nature-study, after giving the time necessary for the fundamentals and professional sub-

jects. It is to illustrate the heavy burden resting on the training schools that we give the results of a question asked of the entering class of a normal school. The students were asked to spend about fifteen or twenty minutes in writing out lists of all the trees growing in this country they could think of and to check off those they thought they could recognize. They probably thought they knew many that they did not, as plum and pear trees without the fruit. About eighty students, mostly girls, comprising three of the six sections of the entering class, took part. They were all graduates of approved four-year high schools. The surprising thing is the large number of confessions of what they could not recognize in the way of native trees, and the small amount of discrimination between species. To be sure a majority, perhaps, were city girls, but city shade trees fared no better than forest trees. The total number of trees mentioned was one thousand two hundred and forty-two. Of these four hundred and fifty, or 36 per cent., were marked as not recognizable. Of the trees mentioned fifty times or oftener, 23 per cent. were not recognizable. These are as follows: 10 per cent. could not recognize apple, cherry, maple, or pine; 20 per cent. could not recognize an oak or a chestnut (one of the commonest forest trees of our locality); 25 per cent. could not recognize birch, also very common with us, nor 50 per cent. a hickory or a walnut, which was not so strange as the other cases. But worst of all was the fact that twenty-eight of the sixty-three who mentioned elms would not know them at sight. Only eight of eighty-five mentioned particular maples. Two out of eighty mentioned oaks. Scarcely any were more specific about conifers than to specify "pine" or "spruce," while seven got no closer than merely to say "evergreen."

So in both city and rural high schools, the responsibility for the subject-matter of nature-study in its broadest sense—that of including elementary physical science, elementary agriculture, and physiology—must rest largely with the high-school sciences.

It may be objected that the high school cannot frame its whole course to suit the few who expect to teach any more than for the few who expect to attend a pharmacy school or an engineering school. But the reply may be made that any fact of such general interest or importance as to be used in nature-study, surely deserves a place in the high-school science. Where none of the members of the entering class of a normal school thinks of discriminating between the different kinds of maple used as shade trees, and only a few between English and other sparrows, when many do not know a maple from an elm, a robin from a catbird, it is evident that the high-school biology did not take account of these things or was not required of the student.

These are centainly fit subjects in cities for both nature-study in the grades and science in the high schools. Likewise the curative effects of fresh air, the germicidal effects of sunlight and heat are certainly pertinent to the conditions of city life.

Where can the future grade teacher better get her knowledge than in the high school? And how can she get it even there, when school precedents, classically trained principals, and social conventions all operate to divert her from the sciences? Not that the topics just mentioned are not important in rural schools, but their treatment would sometimes be different and other topics would claim a place of equal or greater importance. Forest trees and fruit trees will overshadow ornamental trees as practical topics. The economic aspect of robins and catbirds is rivalled by that of hawks and owls, birds unknown in cities. "Boil the water" yields to "Don't pollute the well."

Agitation against dark hall-bedrooms gives way to as needful caution against stuffing the window cracks and banking up the front door in winter. Under the disguise of agriculture, nature-study in the rural districts promises soon to outstrip the work done in cities. While the city teachers possess a much better general education and decidedly better professional preparation, the rural teachers are fast concentrating on this line of work in a way unequalled by those in the cities.

That it is not merely a belief born of hope, may be easily shown by the following data: in 1907–8 agriculture was taught in about 250 high schools, city and country training classes, and special agricultural schools. In 1908–9, the number had risen to about 500, an increase of 100 per cent. In 1909–10 agriculture was taught in 267 high schools in Nebraska alone. The high schools teaching agriculture a year ago enrolled 15,243 pupils and served over half a million people. Over one-third of these students were from farmhouses, and about one-fourth were studying agriculture. The principals of 132 schools, enrolling 11,977 pupils, estimated that 1,722 would teach in the *rural schools*. We have here a definite measure of the growth of the movement. From it we may form some idea of the extent of the reaction we may hope for on the rural-school work. The teaching of agriculture in rural schools is required in twelve states. The work of the normal-school summer sessions is an important factor, but the country-district-school teachers must get most of their help from the science instruction of the high school. From the administrative standpoint, this forms one of the strongest reasons for the introduction of agriculture into the country high schools. To say the least, the teacher of science should give high-school pupils as thoro equipment for teaching this required subject as he should give them for teaching the physiology required by law, or as the English teachers give for the language work of the grades.

A very novel manner in which the science teacher of the rural high school has solved the problem in a few isolated, but successful, cases has been to do this grade teaching himself. When we think of a three-teacher high school carrying on a four-year course, this seems impossible. It was made possible only by the interesting experiment of introducing the departmental system of instruction into the upper grades. We think of this

method as being possible only in larger systems where one teacher may teach arithmetic in four or five different classes of the eighth grade. We think of it as impossible where there is but one seventh and eighth grade and they in the same room. The novelty was in the fact that the organization of the departmental teaching was vertical instead of horizontal. The teacher of the high-school mathematics was not too good for the arithmetic of the grammar grades, and so with the English work, and the science.

The trouble is that when the bright and capable young man gets such an experiment successfully started, some city system or normal school gets him away and the experiment lags in other hands.

Another great problem is the question of what exercises and experiments shall be given in the elementary schools teaching agriculture or nature study, and what ones shall be reserved for the high-school courses in agriculture, or the applied phases of high-school science. This can only be worked out by a mutual understanding and division of labor between the science teacher of the rural high school and the teachers of the elementary schools. There is danger that seed-testing will be repeated in the sixth, seventh, and eighth grades and in the high school, that lettuce and radishes will be grown indiscriminately year after year, and that both grammar grades and high school will wrestle with the same classic tomato-can and pop-bottle experiments until the whole subject falls into disrepute among both teachers and pupils, as has the kind of physiology insisted upon by certain well-intentioned persons, and as I am assured nature study has in parts of New England. When "high-school mathematics" is mentioned, the same idea occurs to nearly everyone. When the term "elementary science" is used, it may call up a variety of ideas, but all are agreed on a certain kind of physics and chemistry which elementary science is not. But no such distinctions arise in the average teacher's mind when we speak of "elementary agriculture." For the most part the textbooks give us no clue. For the textbook reported most often, seventy-one times, by the 164 high schools whose texts I have been able to learn, is not at all of high-school grade in the estimation of the leaders of this movement, whose opinions are worth considering. As against this seventy-one, the next three highest combined amounted to eighty-one. But it is encouraging to know that many of these schools were planning to relegate this text to its proper place in the grades, where its authors intended it to be used, just as fast as texts more suitable for high-school work appear. I am not alone in believing that the average rural high- and elementary-school teacher will remain at sea regarding the differentiation until a two- or three-book series appears, or unless the committee of the Department of Rural and Agricultural Education clearly points out a proper dividing-line both in content and in method of treatment, something beyond the stereotyped "do-the-same-thing-only-more-so" kind of syllabus.

PRACTICAL ASPECTS OF BIOLOGIC SCIENCE IN SCHOOL ADMINISTRATION: THE PROBLEM OF JANITOR SERVICE

DR. HELEN C. PUTNAM, PROVIDENCE, R.I., EX-PRESIDENT OF THE AMERICAN ACADEMY OF MEDICINE AND CHAIRMAN OF THE SECTION ON EDUCATIONAL PREVENTION OF THE AMERICAN ASSOCIATION FOR STUDY AND PREVENTION OF INFANT MORTALITY

(*Author's Abstract*)

The factor in environment most completely under control of school authorities that most affects efficiency both in school and in later life is the schoolhouse air.

The official who has direct and continuous charge of the air is the janitor. Its details with which janitors have to deal are dust, effluvia from bodies, temperature, and humidity.

Dust is now recognized as so universal a cause of disease that the Bureau of the Census is introducing a new classification, "occupational diseases," one used by England for a century and by other foreign countries over fifty years. Dust injures more by its irritating qualities than by the pathogenic organisms it contains. Inorganic dust, such as particles of metal, or stone, by irritating the lining of nose, throat, bronchial tubes, and lungs, prepares these tissues for the pathologic action of micro-organisms; but micro-organisms of communicable diseases are a form of delicate plant life easily destroyed by sunlight and drying.

The death-rate from tuberculosis is highest among workers in metal, stone, pottery, and glass. It is lowest in the country, where one cubic inch of air is said to contain normally 2,000 dust particles, while in the city it contains 3,000,000 made up of dried manure, sputum, house and shop sweepings, tobacco, ashes, smoke, iron, glass and stone particles, etc.

Dust is the commonest cause of colds in the head, sore throat, bronchitis. Wind storms in cities are directly followed by increase of such practice among physicians; and the prevalence of catarrh, to some extent of sore eyes and adenoid conditions, is directly traceable to dust in streets, public conveyances and buildings. Pus microbes are practically always present is such dust.

A nomenclature of dust diseases is growing. Pneumokoniosis is a disease of the lungs due to dust in general. Autopsies show that comparatively few city dwellers are free from it. The lung tissue is dark in color, with fibrous thickening, and nodules where more or less active inflammatory changes took place. In life this was manifest by susceptibility to "colds," by debility and lessened resistance to tuberculosis and pneumonia. Siderosis is due to minute particles of iron; anthracosis to coal dust; silicosis to sand. House dust has more pathogenic organisms because closer to invalids, and less open to fresh air and sunshine.

There is a disease specially prevalent among those connected with

public schools. But we are reluctant to admit that education has an occupational disease.

Dr. Oldright, professor of hygiene at the University of Toronto, quotes statistics indicating that tuberculosis is the cause of death more often among teachers than among workers in all other fields together, i.e., the death-rate of teachers from tuberculosis is considerably above the average death-rate from tuberculosis; it is higher than in any other profession. This is in spite of the fact that women continue in teaching on an average only six years; men only nine; also that many resign before marked evidences of ill-health appear, and at the time of death may not be enumerated as teachers.

Reports in medical literature of the last fifteen years show that between one-third and one-half of school children have tuberculosis, either active or liable to become so on sufficient irritation of the air passages or depression of general health from any cause. Frequency of tuberculosis gradually surpasses that of other diseases thru school and following years until in the prime of life it is the commonest cause of death.

These data are based on many thousand autopsies where children died from diphtheria and other causes than tuberculosis (whose existence was not suspected), on X-ray and other delicate methods of examination, and on reaction to tuberculin tests. The fact that so many frail children improve in open-air schools is suggestive.

School fatigue and dullness are recognized accompaniments of the educational process; also nervous disorders.

The best cure of all these ills is life in the open. The chief factor in school life that invites them is school sanitation. This we leave to ignorant and incompetent caretakers and supervisors; who make no pretense of fitting for sanitary inspection or sanitary duties; who do the best they know with knowledge picked up.

It is certain that if in vocational or technical or continuation or trade schools were courses for janitors and their superintendents, intelligent interest and efficiency would be secured and public health improved. Every large city has several hundred janitors of schools, apartment houses, office buildings, theaters; as well as Pullman porters, train and street-car conductors, hotel managers. We need to introduce educational and health standards in this important occupation. No good home-maker has the dirty floors and atmosphere with which we shut up children and instructors.

The Massachusetts Civil Service Commission examines applicants for janitors' places in personal record and elementary education, with a few questions on cleaning, heating, ventilating, and lighting. Engineers' licenses are required for high-pressure engines except where "policemen's safety valves" are used. The test is much less rigorous than that for other offices, the reason given being that few eligible men apply.

It is the custom to rely mainly on past service for promotion. There-

fore the quality of a janitor's work depends much on the principal, as quality in domestic service has long depended on the mistress. The twentieth century is learning, and finds it hard to do so, that principalships, parenthood, and janitorships do not carry with them innate capacity for the duties; that men's and women's instincts as parents, principals, or janitors need twentieth-century scientific information for efficient care of children.

They need understanding of biologic laws and their underlying principles in physics and chemistry—subjects in which the great majority of parents, principals, and janitors are little interested, because in their schooling teachers of these sciences made them academic rather than vital, or they had no such teachers. This Department of Science Instruction holds the key to school sanitation as to other problems of public health and morals.

A teacher of biology in the ninth grade, whose every detail is directed to stamping pupils' minds with biologic laws common to daily life, whether studied in sea-weed or bird, and who has done it so wisely for eight years that now results are coming in from former pupils justifying departure from collegiate methods, said to me, "All I adapted to everyday problems I had to do myself. We do not get in our biology courses anything about human and social biology to fit these children for living."

Fortunately this instructor had enough initiative to adjust "orthodox" training to these important demands; but this resourcefulness is not found as often as needed. If principals and others high up show little appreciation of biologic law in school management, and allow little time and equipment for biologic teaching and the necessary physics and chemistry, probably their experiences are like one of mine that is rather typical. After fifteen minutes in a classroom of thirty normal pupils vaguely discussing trap-door spiders and other "book animals," the principal justified the decision to cut down zoölogy one-third and give the time to English by saying, "It doesn't seem to *amount* to anything." The room had scores of flies; the neighborhood mosquitoes, tuberculosis, malaria, and infant mortality; but these fascinatingly related topics in civic zoölogy are commonly neglected.

Some instructors in science create great interest by studying the immediate environment; and janitors who find "cultures" being made of halls, rooms, and basements, temperatures charted day after day, and class discussions of conditions, possibilities, and methods, have become interested. Some such janitors are devising methods of floor-cleaning, dusting, and ventilating that are unique and of value. One instructor is contemplating a class for janitors this winter.

We need school data concerning dust, carbon dioxid, temperature, humidity, and other details. Science instructors are ideally situated to secure them, and better work for educating pupils in sanitation could hardly

be wished. We need to establish permissible limits which shall not be exceeded; to have practical methods for testing them; to have as definite standards of sanitation as of bookwork; to train caretakers as we train engineers, nurses, librarians.

We have still lessons to learn from open-air schools; and much between them and the elaborate, expensive systems at the other extreme, where air is sifted (the screens soon foul with dirt), washed (the washings a muddy stream), heated, humidified, and sent at certain speed to rooms whose windows must not be opened, and where out of thirty-two automatic heat regulators I found twenty-seven that "didn't work." In about 600 schoolrooms in various cities I found 210 thermometers, one-third of them out of order, and barely twenty registering within one of 70 degrees, the others ranging from 72 degrees to 85 degrees in winter months. Delicate children improve in all respects in outdoor schools where the temperature is that of even winter. Tuberculosis is cured more rapidly in cold weather than in summer. England requires the schoolroom to be 60 degrees. If this is too cold, it seems safer than ours in the seventies, with mortality statistics as they are.

Health maxims cannot offset habits that educate popular liking for overheating, and indifference to bad air and dust.

In a Cornell student's recent report on a prominent school the hygrometer determined humidity 24 per cent., normal being 60; the anemometer found no currents in ventilating flues; the Pettersson-Palmqvist apparatus showed carbon dioxid steadily increasing from 4 parts in 10,000 (normal) to 24 parts, i.e., the pupils breathed technically bad or very bad air thru the day.[1] The school, like all in that city, had printed rules for the janitor; but absence of technical training (janitor), technical standards(school board), technical supervision (instructors) made rules valueless.

Methods of precision are as practicable and as necessary for caretakers of a school as for nurses in a hospital; their routine practice is entirely possible with reasonable instruction, less instruction than is given in schools for nurses and for domestic science.

[1] Quantitive determination of carbon dioxid indicates animal exhalations present that are injurious. The dioxid is never in sufficient quantities to poison

DEPARTMENT OF SCHOOL ADMINISTRATION

SECRETARY'S MINUTES

OFFICERS

President—J. J. STODDART, president, School Board.....Columbus, Ohio.
Vice-President—J. S. BOWERS, member, School Board.....Moberly, Mo.
Secretary—WILLIAM GEORGE BRUCE, editor, *American School Board Journal*.....Milwaukee, Wis.

FIRST SESSION—TUESDAY FORENOON, JULY 5, 1910

The first meeting was called to order at 9:30 o'clock in the Assembly Room of the Normal Art School, by President J. J. Stoddart, president of School Board, Columbus, Ohio.

President Stoddart then read a paper on "The Outlook for Educational Administration."

He was followed by David Snedden, Commissioner of Education for the State of Massachusetts, who spoke on "The Need for Better School Reports and Publicity."

After a general discussion of the paper it was moved that a committee of five, headed by David Snedden, be appointed to express the sentiment of the Department for better school reports and that the United States Commissioner of Education be urged to prepare and issue a handbook on school reports and accounting for the guidance of school administrators.

The Chair named:

David Snedden, Massachusetts State Board of Education, Boston, Mass.
George D. Strayer, adjunct professor of elementary education, Teachers College, New York City, N.Y.
Frank B. Dyer, superintendent of schools, Cincinnati, Ohio.
R. G. Kinkead, assistant superintendent of schools, Columbus, Ohio.
Willard S. Small, principal, Eastern High School, Washington, D.C.

Upon motion, L. N. Hines, superintendent of schools, Crawfordsville, Ind., was unanimously elected vice-president to serve in the absence of Mr. J. S. Bowers.

Henry R. M. Cook, auditor, Board of Education, New York City, N.Y., then read a paper on "The Standardization of School Statistics."

The Chair announced the Committee on Nominations to consist of:

David Snedden, Massachusetts State Board of Education, Boston, Mass.
George H. Johnson, Cleveland, Ohio.
Samuel P. Capen, professor of modern languages, Clark College, Worcester, Mass.

The meeting adjourned.

SECOND SESSION—WEDNESDAY FORENOON, JULY 6, 1910.

The meeting was called to order by President Stoddart at 9:30 o'clock.

R. Clipston Sturgis, formerly chairman of the Boston Schoolhouse Commission, Boston, Mass., spoke on "Problems of Schoolhouse Planning."

He was followed by David A. Ellis, chairman of the School Committee, Boston, with a paper on "A Decade of School Administration in Boston."

Both speakers were questioned by members of the department concerning the relations, status, and functions of the Boston Schoolhouse Commission and school committee. The discussion brought out interesting facts concerning administrative policies in Boston

relative to the selection of architects, the employment of teachers, school finances, powers of the superintendent, etc.

The Chair announced the report of the committee upon nominations, which recommended the following officers for the ensuing year:

For *President*—Linnaeus N. Hines, superintendent of schools, Crawsfordsville, Ind.
For *Vice-President*—Willard S. Small, principal, Eastern High School, Washington, D.C.
For *Secretary*—William George Bruce, editor, *American School Board Journal*, Milwaukee, Wis.

Upon motion the secretary cast the ballot of the department for the persons nominated and the Chair declared them elected.

Adjournment followed.

WILLIAM C. BRUCE, *Secretary, pro tem.*

PAPERS AND DISCUSSIONS

THE OUTLOOK FOR EDUCATIONAL ADMINISTRATION

J. J. STODDART, PRESIDENT OF SCHOOL BOARD, COLUMBUS, OHIO

The topic assigned to me is broad, and, as I take it, covers the whole field of educational administration. In seeking to define this field and to determine the matters naturally coming within the purview of the subject, the mind ultimately comes to the conclusion that educational administration touches upon substantially the whole field of education. To administer properly all that which pertains to education means that persons having it in charge must consider what an education is—what subjects should be taught in order to obtain the highest result from the educational system—the demands of the times, the social conditions, the subjects of education that fit the child for present conditions, and the object of the education of the children. To administer properly an educational system, those who administer it must make a close study of the trend of the times, of the changes in the life of the community and nation which call for a change in the subject-matter of the education, and for enlargement in some directions and reduction in other directions.

Additional to these duties, there falls to the lot of those administering an educational system the duty of keeping up with the times in all matters pertaining to school buildings, including the question of fireproof buildings, sanitation, the best heating, the best lighting, and the best seating. All of these matters are of extreme importance to the children whose lives from the age of six to eighteen are to be spent within the buildings during most of the school hours.

Connected with the subject-matter last named come several other matters which are being forced upon the attention of the school boards and in regard to which there is much discussion and great variety of opinion. I refer to the demand of certain societies and clubs that the school system shall have within itself a system of medical inspection, a system of dental

inspection, and shall have fresh-air rooms in every building, with facilities for cooking, heating soapstones or other blocks, a nurse, heavy wraps and hoods, gloves and foot-wear for children, and all other things necessary to a day hospital for tubercular children. It is demanded that the eyes, ears, and throat of each child shall be examined and their lack in that direction prescribed for, and additionally that the schools shall supply many of the sanitary matters that are ordinarily considered as home duties, namely, bathing and the simpler matters of medical attention such as might be called "first aid."

The limits of a twenty-five-hundred-word article will not permit even a partial discussion of all of these topics and I shall confine myself largely to that which seems to me to be of the most vital importance in administering school affairs, namely, the first topic mentioned. Mr. Wolfe, of Texas, in an address before this Association raised the question, "What is educationally best for that wonderfully complex entity we call society?" This is an accurate statement of a great question in most expressive words. To administer education properly we must see what is necessary to be done and what is educationally best for each community and for the nation at large, and in deliberating upon this, we must take into consideration the complexity of the social fabric of each community and of the nation at large, the latter, however, not being as important as the former. If each community is cared for, then it is more than likely that the whole of which each community is a part will be properly cared for educationally. The system that answered so well during the earliest history of this nation has been entirely outgrown. More potent and epochal changes have taken place within the life of the present generation, and are now taking place, than have ever been recorded in the history of mankind. The whole system of business, communication, commerce, trades, professions, life, and ideas of the nation has changed. We are living in the age of the greatest awakening that the world has ever known. Never have such rapid mental, moral, and business changes been witnessed and never has mankind made such rapid advancement in all domains of human thought and activities. The master minds of the business and financial worlds have grasped the situation and are rapidly organizing the new forces and conditions; the educational and artisans' worlds have not been so quick to move but are responding in a measure to the new impulses. It is being fast realized that all the conditions of human endeavor are changing, that the lines of the new education are set wider than preparation for professional life for the few with a rudimentary education of the same nature for the many. The day of the strictly cultural education has passed. Deftness of hand and accuracy of eye—which means the training of the brain back of the hand and the eye—must be taught as part of the public-school system. The old apprentice system has broken down in the onrush of modern progress, and quicker, more scientific, more accurate and direct training in a larger

way is absolutely necessary to keep the industries of our country on an equality with those of competing nations.

It must be the aim of the schools to provide first of all for the large body of pupils who can never be enabled to make their living in the learned professions and who will never be able to take the so-called higher education. Those who expect to go to college should not be neglected, but they are the exception and form a decidedly small proportion of the pupils of the schools. The schools should not be so largely administered for their future. The aim should be to train the masses to give to the nation the highest productive results attainable from their life's energies. In the final analysis, it is the efforts of the masses that give to a nation its tangible, measurable, national production. It is not the money that a man gathers together, nor the bonds and stocks that he may have in his strong box that truly measure what he has done for his community. It is largely that which can be made to appear on the face of the earth by way of improvement that will more truly tell what a man has done for the community in which he lived and which contributes most to the visible, material wealth of the nation. To this phase of the world's wealth the masses contribute infinitely more than do the classes. That which will make the masses more productive and leave more behind on the face of the earth because of their being there is what will most visibly increase the power and productiveness of the nation. I know that it may be said that the true object of life is not amassing wealth for the nation, and I am in full sympathy with that ideal, but none of us is able to get away from the fact that progress is mainly shown by additions to wealth and the means of enjoyment of life, and that to be able to obtain the best in life, there must have been gathered together a surplus of wealth, not large, but enough to enable its owner to have more than the bare necessities. Hence, materially speaking, the object of education and the true administration of the means and methods of education in this country should be to enable the masses to enrich their lives by attaining the highest productiveness possible to each individual. True, the endeavor of the masses must be guided by skilled masters of industry, but the higher the efficiency of the soldiers of industry, the greater the results of their endeavor. The general with the highly trained soldiers will always win over the equal general with ill-trained men. This is as fundamentally true of the industrial army and its leaders. The highest efficiency of the nation can only be attained by training its masses in childhood and youth in the direction and way that will develop and utilize the best that is in them. I realize that the logical result of this plan may be special schools for the preparation of the small proportion of youth who will attend the scientific and so-called cultural colleges and will thus minimize that which heretofore has been considered of the greatest importance, but I cannot avoid the conclusion that the pressure of the present trend of society will leave no alternative, and the net

result must be industrial schools training the masses and their co-ordination with the scientific schools, so that the research of the latter will be seized and adapted to the industrial processes and both go hand in hand for the common good.

I think it will be admitted that public opinion is rapidly forming around the idea that the schools as at present administered do not fit the masses for their life-work, and therefore do not interest a large majority of the pupils. Compulsory education forces many to school to waste their time and that of the teachers, and to be detrimental to other pupils. If a boy is compelled to attend school, his dislike for his studies is increased. He loses even any small liking he would otherwise have for learning, and instead of good results, there results positive injury. Such boys cannot and will not take a book education. Their bent is in other directions. For them the training must be along active lines. To save them to the community and to obtain from them their proper and best contributions to the state and to themselves, their activities must be directed toward and into the active channels of industrial occupations.

I realize the radical change that must be made in the book studies now prescribed in order to give the necessary time for pursuing effectively new lines of activities, but I have unbounded faith in the capacity of our people to solve the problem. I further realize that many of the school idols of the past must be parted with and placed among the antiques, just as the locomotive of thirty years ago is now on the scrap-heap or exhibited as a curiosity. We are going too fast to use anything longer than it continues to be the best. The great railway systems still use locomotives, cars, and tracks, but not such as formerly. The general plan and instruments are the same, but the changed conditions, the increased demands are promptly met by modern facilities and changed methods—the administration of their affairs moves up promptly to meet each new demand. Similarly, the administration of the school system must acknowledge the changed conditions and relentlessly consign to the scrap-heap or the museum whatever is not up to the present demands in efficiency.

I do not mean that changes should be sweeping. All modifications should be rooted in past experience—evolution, not revolution. The types only should be changed, just as the type of the locomotive, coach, and rail of the railway have been changed, the system and the basic plan always remaining the same.

How to meet these demands is the most difficult problem presented to those now administering school affairs. It is something which, in the first instance, does not wholly belong to the teaching force nor to the professors in the colleges, but it must be worked out largely by persons in close contact with the busy world, knowing its demands and able to show to those in charge of the schools what is necessary for the schools to do. I am quite positive that, while the fundamental position of the school system

must remain the same, yet radical changes will have to be made in the courses of study, and the patchwork of the past few years will have to be abandoned.

The simple course of study of the schools many years ago has been changed by adding various things demanded by changed social conditions, but very little has been eliminated so as to give time for pursuing the former studies and also the additions. In our city schools we have added elementary science, music, drawing, penmanship, calisthenics, manual training, domestic art, and now have added trade schools, and yet it must be all accomplished within the five hours per day allowed for the original subjects, consisting largely of the three "R's," with the net result that the children do not have any time to do independent thinking or independent work. In many places our schools are very much after the fashion of the oriental schools where all pupils study aloud—most of the school hours being taken up in what might be termed concert work, resulting in too much rote work, too little independent work, too much done by the teacher, too little by the pupils, too much reliance upon the teacher and almost none on self, and the pupil is helpless when he faces the work of the world. He has no teacher at his shoulder to guide him, he does not have the hints that come from working together with other pupils in classwork, and he has no proper self-reliance or mental fiber. I consider this to be the gravest evil in the administration of our school system, and I feel that progress made by children after leaving school is largely in spite of school work and not by reason of it, as should be the case.

The conditions last mentioned are a net result of an attempt on the part of those administering the schools to teach that which is demanded by the surrounding conditions, and a point has been reached where the pressure for a school course that will take care of the masses will render it necessary to reconsider the course of study thru the schools, at least from the fourth and fifth grades thru the entire course of study in the schools and in the colleges.

A hasty perusal of the earnest discussions of this Association during the past two or three years shows that the members of this Association are fully awake to these matters, that the importance of existing conditions has been present with them during the discussions, and that they were earnestly seeking to solve the problems, some presenting one thought, some another, but all looking toward an ultimate solution of the difficulties.

The School Board of the City of Columbus, Ohio, has made a new division of the grades, conducting the first six grades as before and forming the seventh, eighth, and ninth grades into a new unit called the "junior high school," leaving the tenth, eleventh, and twelfth as a unit called the "senior high school." It has long been a recognized fact that many of the high-school pupils leave school at the end of their first year, feeling that nothing definite has been accomplished and without having finished any exact

course of instruction, without having reached any definite goal. It has further been remarked that pupils in the seventh and eighth grades have passed from childhood to youth and should then receive a different and more mature instruction than in the lower grades; should be segregated from the younger children and the fact of their advancement emphasized and dignified; and the fact that so many leave school at this point should be recognized as an existing fact and a stopping-place fixed there, a definite course created that would end at that natural point, closing their school life with a diploma that certifies that they have completed a school course and honorably attained a definite educational aim.

It was further recognized that departmental work has a position in these three grades, furnishing a better product and better results than could be attained by the old method. At this point in their school life, the boys and girls should be thrown more upon their own resources and, by gathering them into centers, they could take manual training, domestic art, and kindred subjects without losing the time that would naturally be lost in traveling from their schoolhouse to the centers established for those purposes. After completing their work in the junior high school, the pupils would then have largely found themselves and would know in which direction they desired to go, whether they desired to prepare themselves for colleges and scientific schools, or to take the other current and enter the trade schools. If the pupil is not able to spend further time in education, he is more fully equipped for life's work than he would be if he had gone only one year to high school and then dropped out without having had the benefit of the three years of departmental work that will come to him in the junior high school, and he will have been taken beyond the first year of the fatal two years lying between fourteen and sixteen, when so many leave school unfitted for anything but the most unremunerative labor.

It is contended that the present conditions forecast a division of school life into two currents, the first of which, and that by far the larger, will go in the direction of industrial pursuits, and the second in the direction of the learned professions. If the schools properly perform their duties, and cause this nation to keep in the vanguard of the nations of the earth, they will be compelled to plan and further elaborate the courses of study which will best fit the masses for their life's duties, and will be compelled to arrange those studies so that they will fit the masses for industrial pursuits. If there is in the school course a school to which the child who feels that he has no desire or has not the peculiar qualities to succeed in the professional high schools may look forward, many more of our children will be interested in the grammar-school work and in all the work of the whole industrial school, because they and their parents will know that the children are doing the work necessary to fit them for the work of their choice. It is well known that the boy who enters unskilled labor reaches within four or five years the highest wages, and that the boy doing skilled labor makes more money in two or three

years than the other boy does in five or six years. They will be thus kept longer in school and in the end will command the higher wages; but with nothing before them except the professional high school, as is now the case, very many do not and cannot stay in the schools any longer than it is possible for them under the law to get out, and the ranks of unskilled labor are filled to overflowing, while the demand for those who can do high-grade work is seldom filled.

I realize that there must always be a large number of unskilled laborers and that the world needs them, but the best results of the highest civilization will come when all persons are taught to do the best that is in them in the pursuit which they may follow; in that way only can this nation compete with other nations who recognize that fact.

In a democratic nation like the United States it sounds somewhat heretical to say that there are classes and that there should be classes, but such is the fact. There always has been a classification of people in each state and there always will be. The glory of this nation is that while there are classes, each individual can or ought to pass from one class to another and to reach whatever class he is entitled to at the end. Neither birth nor blood nor family can permanently classify the people in this nation, and it is the duty of our school system to further perfect this natural arrangement and give every child an opportunity to reach the position to which his health, strength, and intellectual powers entitle him. This cannot be done unless the present school system is revised and administered in such a way as to offer facilities along other lines than those heretofore developed. We have fully developed the facilities for allowing the youth to follow the learned pursuits, or to become men of science, and there we have ended, while the great masses are still unprovided for.

There has been a demand upon those administering school affairs to provide for medical inspection for all pupils attending the schools, also to provide for dental inspection. We all fully appreciate that all the children of the nation should be made strong, if possible. The school boards in many cities are taking action along those lines, but it seems to me that this is not the true object and duty of the educational system. Such things belong more nearly to the health department of the government. The natural result of taking such duties within the scope of the school system cannot fail to end in sanitariums and hospitals becoming a part of the school system. The line of demarkation between the duties of the health department of the government and the educational department is clearly defined and I most respectfully submit the opinion that those things naturally belonging to the health department of the government should be retained by it, and not cast upon the school system. If I am correct, the same should be said of the attempt to cast upon the school system the duty of taking care of the children afflicted with tuberculosis. The limits of this paper render it impossible for me to take further time upon this subject, but I hope

that what has been said may elicit further discussion. I have tried to bring out the following points:

1. That it is the duty of school administration to provide schoolrooms, facilities, and courses of study that will meet the present demand for educating the masses in the most productive lines.

2. That this object is of more importance to the nation than to fit the youth for the professional colleges.

3. That the classification of the schools will have to be broken into different units.

4. That those administering school affairs must arrange the schools and studies so that the two currents tending in the direction of the learned occupations and the industrial occupations may be provided for in the high-school work.

5. That great care and thought should be exercised before the money raised for educational purposes is allowed to be expended for sanitarium and hospital purposes.

THE NEED FOR BETTER SCHOOL REPORTS AND PUBLICITY

DAVID SNEDDEN, COMMISSIONER OF EDUCATION OF THE STATE OF MASSACHUSETTS, BOSTON, MASS.

An examination of the annual reports of the National Education Association will show that this is an old and to some extent a stale subject. For many years now the superintendents of this country, city, and state, as well as the Bureau of Education at Washington, have been striving to make their periodical reports more significant and more valuable. Little can be added to the discussion at this time that is of value, but positions may be restated and perhaps slightly different points of view indicated.

At the outset it seems that the following principles may be accepted as basal:

1. Both on the side of general description and of statistical presentation our city, state, and national educational reports are now in a great many instances good not only as contrasted with those which precede them, in the earlier part of the nineteenth century, but as contrasted with even presentations found in other countries.

These reports contain a vast deal of information; on the statistical side they have massed a great amount of material; they serve to indicate educational wants fairly well.

2. The school or educational report is to be regarded primarily as a communication to the public—to a public which reads newspapers, which has a fair interest in education, which develops here and there careful critics, destructive or constructive, and in the last analysis is interested in both efficiency and economy in education.

In communicating with this public, educators, thru their reports, aim to be truthful. It is sometimes urged that it is injurious to present all the truth. In the long run it is believed that this position cannot be defended. There may be such a distribution of emphasis as to bring certain needs or exhibits out into relief but in a report that aims to be truthful allusion will certainly be made to the fact that this relief is intended.

School reports might be addressed to others than the public; for example: to sociological students, to educational experts, or to the teaching force. In any of these cases the report would have its character determined to a large extent by the end for which it

is designed. Our published report should not be designed primarily for social students, for people with unusual inquiries, for adminstrators, or even for teachers. The administrative officers should assemble and utilize as far as possible the kind of information that would appeal to and be serviceable to these special needs, but the published report is a communication to the general public.

3. The published report being primarily a communication to the public, it should aim to do these things:

a) To describe certain situations accurately.

Accurate description involves a correct and effective terminology and generally practicable statistical methods. To a large extent statistics must be regarded as merely a means of accurate description whether of special facts or general facts including relationships. Some of the situations to be described in education lend themselves to statistical treatment, as, for example: moneys expended, plant employed, teaching force, attendance and movements among pupils. Other special facts and relationships lend themselves imperfectly to statistical treatment; for example: the quality of teachers, the results of special lines of teaching, the attainments of pupils, behavior and health of pupils, etc. A truthful report, however, would describe exactly by means of statistical methods those things which could be so described and would clearly indicate the inability of its makers to describe other facts owing to the inaccessible data or lack of units of measurement and other statistical necessities.

b) The report must also point the way and assist in the making of correct inferences.

Descriptions are often valuable in themselves, but more often valuable as pointing the way to action. It is of interest to the public to know how much money is spent on schools, but of more interest to know how this money can be better spent, or how more money could be wisely spent. It is of interest to know what has been the attendance, quality of work done, and attainment of pupils, but it is of more interest to know how these things can be made better or modified. Use of description whether general or statistical as a means of making safe inferences is an art in itself. The securing of these ends involves primarily the presentation of definite problems and the logical arangement of the material by which the problems are solved. In general our educators and school reports both exhibit failures in setting definite problems. We fire too many shots at random. The public which criticizes us is often unable to propose questions or problems of a definite sort.

c) School reports should reach a large portion of the public and should keep it well informed as to the significant things in educational development and need.

Consequently the makers of all reports should study the art of true publicity. For example: voluminous reports reach but a small portion of the public; they seldom reach the light thru the public press; they often serve to repel rather than attract any but a few students. It would appear to be an obvious necessity that reports should be issued in small sections, each presenting a definite point and so arranged as to cause significant facts to stand out in relief. These bulletins should be designed to appeal to the press and its readers. Ultimately, these bulletins may be incorporated into a volume for preservation and used as a reference book by the few special students above alluded to.

Among the needs most urgent at the present time in the making of school reports for true publicity, are the following:

1. We need from the hands of the statistician some sort of a book

describing for us the best methods of reporting various classes of facts. For example: it should not be difficult to provide an adequate system conforming to the best standards of reporting the financial side of our educational work, because here we have satisfactory units of measurement and methods of reporting which have proven successful in other departments of institutional activity. On the other hand, for what might be called pedagogical statistics, as opposed to financial, we still lack units of measurement and methods of statistical reporting, except as regards such comparatively unimportant matters as amount of school attendance, classification of pupils, compensation and credentials of teachers, cubic contents and seating capacity of school buildings, number of cases of adenoids, etc. The far more important facts regarding the productive capacity of teachers, the results of different methods of teaching, the actual attainments of children in school work, the causes of failure, etc., we seem yet incapable of measuring except in a very crude way. The school superintendent would be grateful for a careful formulation of the ways and means of description in the various fields wherein he is called to report.

2. There is greatly needed an extensive formulation of the questions and problems which a school report should undertake to answer. Every lay inquirer constantly discovers new questions which are not answered by any available school reports. Many of these questions are significant and important while others are purely personal and of no general value. A careful formulation of the questions which are of significance and which can be answered by the data which should be at our disposal would be timely and valuable. It seems to the writer that these problems and questions could easily be formulated and stated by a committee of the men who are engaged in making school reports. Each problem or question should have appended to it a statement of the ways and means by which it may be answered with some indication of the degree of accuracy that might reasonably be expected. For example: it may be claimed that no statistical statement can be yet made regarding the effects of professional study on teaching ability; the effects of the study of mathematics or manual training on the intellectual achievements of the high-school pupils; or the relationship between schoolroom ventilation and anemia. Those who wish to ask such questions should certainly be apprised of the extreme difficulty involved in answering them and urged to join in making a demand on specialists or experts for an investigation of the means whereby in the future they may be answered.

3. The superintendent today needs not only some agreement as to methods and problems but also with reference to the periods at the end of which public reporting is desirable; for example: there are certain types of statements that might well be made annually or even more often; others for which a quinquennial presentation should amply suffice; and still others that might have only decennial reporting. Undoubtedly our pub-

lished reports are encumbered with a large mass of material for which there is not the slightest excuse for annual for biennial reporting. No superintendent feels at liberty in the absence of any general agreement on the situation to omit the presentation of tables which have already become a traditional feature of the report.

4. The time has undoubtedly arrived when each state and city system should recognize that the making of adequate reports is a work that involves the specialist, especially the statistician. The superintendent in his general capacity of administrator can hardly be expected to provide expert knowledge in this direction any more than in the field of bookkeeping or stenography. Statistical science is making rapid advances in these days, and new and more complex, and therefore more valuable, methods are being developed. The art of true publicity has developed its specialists notably in the field of advertising. The effective use of tabulations, charts, diagrams, and cartograms involves special knowledge and attainments. The superintendent should feel free to enlist these special services when he has defined for himself a demand in this field.

5. Finally, there is need for closer co-operation on the part of educators engaged in the utilization of statistical and other methods of description between them and the statistical workers in economic and social science. These have even gone far beyond the educators in their applications of improved methods to reporting and publicity.

THE STANDARDIZATION OF SCHOOL STATISTICS

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In a practical sense, education represents a public investment, when administered properly.

Defective administration may so change the situation as to cause the public mind to regard education as in the nature of an expense. In suggesting this thought, the reference is not confined merely to financial expense which is readily controlled as to volume, but there is a more important element to be considered—expense of time; and defective administration is the common means of wasting time, thus working a hardship to the educational unit—the pupil.

Educational results are not of an exact character, and cannot be measured in the same manner as the products of a business.

Physical conditions are rarely the same in school systems, and the plant which in one location is considered ample and sufficient for its purposes might, in the case of buildings, be condemned as unsafe and unsuitable in another location.

Financial conditions vary greatly, and a school tax based upon the assessed valuations in one city might produce an abundance of money for

educational purposes; but, if the same tax-rate were applied in another location, its product might be inadequate to maintain even a low standard of efficiency.

The factors used in computing the per-capita cost of educational activities vary widely, so that comparative data are not only obscure, but frequently worthless; for instance, some school systems evince a desire to reduce apparent per-capita cost by using "enrollment," or separate number of pupils taught during the year, as indicative of the service rendered; again, others use "average daily attendance" as the factor; and, still again, "average register" is employed as a kind of middle course or compromise.

Looking at this problem from another standpoint, the groupings of the various kinds of school disbursements are radically different; for instance, capital outlay, in extreme cases, has been known to enter into per-capita annual cost. It is by no means uncommon to include in the per-capita annual cost the expenses of maintenance and operation of the school plant, and to further complicate the situation, it is frequently the case that, in communities where evening and special activities are maintained, the day school cost is made the scapegoat for all such items of expense.

The number of sessions in a school year varies in different communities, also the daily duration of the employment of the teachers; again, the basis for the employment of teachers is not the same, for it may be anywhere between thirty and sixty pupils per teacher, and yet each community may feel satisfied with the course it pursues. That which would be considered as affording the best educational results in one place would be regarded as extravagance in another.

And so the complexity of the problem becomes more apparent, as school systems grow larger proportionately with the increase in population, and the demand for better and enlarged educational facilities.

Probably no greater service can be rendered to the cause of public education than the adoption of standards of measurement of efficiency. The collection and collation of educational facts of unequal weight and varying consistency produce a mystifying rather than a clarifying effect. Healthy competition and the stimulus to do better things is not encouraged by a display of unequal and inconsistent facts placed in juxtaposition.

No man possesses greater opportunity for the collection of standardized facts than does the United States Commissioner of Education, and it was with keen enthusiasm and genuine pleasure that a number of school officials and others met in Washington last May, at the invitation of Dr. Elmer Ellsworth Brown, for the purpose of forming an organization to aid him in securing standardized school facts, and, in thus aiding him, to further the interests of educational administration generally. Such an organization was formed under the name of the National Association of

School Accounting Officers. The object of this association, as set forth in its constitution, is "the standardization of fiscal, physical, and educational data of school systems for presentation in the form of public reports."

The broad scope of the objects of this organization may seem to require some explanation and comment, and this occasion affords an excellent opportunity of setting forth some salient points. . . . .

It is not to be inferred for one instant that the school accounting officer and statistician can evolve and produce, by himself and of himself, a report which will reflect and illuminate all branches of a school system, but it is submitted, as a thought, that where facts, of whatsoever nature, can be reduced to form and figures, the school accounting officer and statistician is best able to perform such function, so as to combine, co-ordinate, and arrange them, to the end that perfect harmony should exist from a statistical point of view. This would leave to the educational head an opportunity to deal with conditions and facts governing the fundamental objects of the system, and the report, as a whole, would then fairly represent the system as a whole—its operations, needs, and condition.

The association is in its infancy, and while many things have been discussed, it has not been possible, up to the present time, to do more than touch lightly upon the many phases incidental to the important problem to be solved. However, it may be well, at this time, to suggest some items of a practical character, that may furnish food for thought.

In the determination of costs, it is obvious that the method of computing "attendance" should be uniform everywhere; otherwise, at the outset, results would vary considerably. This point is of fundamental importance, and its relation to the statistical accounting of school systems cannot be overestimated.

In the beginning I made some reference to various methods of computing attendance, and their uses and abuses. What is needed, primarily, for statistical purposes, is the adoption of a scientific unit, and that all calculations of per-capita cost should be based upon such factor. It would seem fitting to consider the acceptance of the following formula: Compute the aggregate days of attendance of each and every scholar attending during the year, and divide same by the number of days the schools have been in session. The result would be the average daily attendance during the period. The rule may be applied in connection with each educational activity, and would indicate, scientifically, the actual school service performed, for the unit of attendance so computed would represent the average service of each scholar in each specific activity. Such a method is employed in New York City (and elsewhere), and is based upon the educational statutes of the state of New York.

Both register and enrollment have been found to be somewhat inflated factors for use in connection with school statistics, especially in large cities where difficulty is always experienced in following the movement of the

school population. It is not uncommon to find the name of a scholar enrolled or registered in more than one school. . . . .

Whatever may be said of enrollment or register as a rough-and-ready basis for allotment of supplies, or making adequate provision in advance for employment of a sufficient number of teachers to meet all approximate needs, it is certain that average daily attendance is undoubtedly preferable for computing per-capita cost, and its adoption universally would go far to make valuable the comparative per-capita costs of different school systems.

The analysis and classification of school disbursements is an interesting subject, and the fixing of a proper resting place for each item of expense is one of the most important functions of the school accounting officer and statistician. A slight study of the individual reports of school systems indicates that there are nearly as many methods of compilation as there are school systems, and so it must follow that the massing of such reports into consolidated form for the purpose of obtaining comparative data cannot be very illuminative or conducive to education stimulus. Massive statistical tabulations may be thus compiled, and they appear well and imposing.

Sometimes, however, an inquiring mind seeks specific comparative data, and takes the trouble to ask questions on some point or points which exhibit marked difference in cost as between two school systems of similar size, and operating under approximately the same conditions. It may be found frequently, in such cases, that upon analysis the true difference in cost is not of material importance, but the classification of the expenses of the two school systems is so radically different that the published statistics but faintly indicate anything of value for the practical purposes of comparison.

Can any factor in school administration be more important than the existence of standardized and classified facts compiled scientifically and methodically for the purposes of comparison?

In the presentation of statistics, there are two common methods employed:

1. By adhering strictly to an exposition of facts, classified under salient heads, in condensed form, and exhibiting such continuity or sequence in time and event as to show clearly, and without embellishment, a result, the origin and authenticity of which is not subject to doubt or surmise.

2. A second method is frequently adopted by speculative statisticians who use as a basis the accounts of a fiscal period, and, by process of extreme analysis, endeavor to build a statistical fabric with the object of proving or disproving certain theories.

A plain relation and classified presentation of principal facts, as depicted in the first-mentioned plan, is immeasurably preferable, inasmuch as the plain truth thereof is sufficient for the mind of any average individual to grasp, and adequate for the purposes of mental comparison and conclusion.

The second method, while based upon a foundation of fact, is, as a

rule, so colored or accentuated in many ways, and so burdened with unnecessary detail and abstruse analysis, as rather to mislead the open-minded observer who is seeking facts only, and lead him to accept what may be erroneous or biased conclusions, thereby falling short of a comprehensive grasp of salient facts and truths.

It is quite common for those unfamiliar with school administration to compare large school systems with large business corporations.

It is submitted that a school system cannot be compared equitably in any sense with a business corporation. A school system is not a capitalized corporation, and therefore does not exist for the purpose of producing a profit to stockholders, which *is* the object of a business corporation. On the contrary, its sole object is one of education; and its assets are not subject to depreciation or appreciation in the same sense as those of a business corporation. Its disbursements, aside from those for assets, are for the maintenance and operation of its properties, expenses of administration, and for such purposes as may be distinctly applied to educational cost.

In other words, the business of a school system commences to diverge at the point where that of a private corporation or business really begins, viz., after the conversion of cash into another and more workable form of asset.

Starting at this point, i.e., where the "plant" has been acquired, while a manufacturer may be able, by judicious buying of raw material and by the economical working of the same, always to produce finished articles at a minimum of cost, it would be absurd in the school system to limit the cost of educating, for example, a foreign-born, non-English-speaking child to the per-capita rate which might be found to apply to a child of educated American parents.

To attempt to measure accurately and compare the educational result, it would be necessary to consider relatively such factors as the education and instincts of parents, home life and opportunities of the children, their mental and physical condition, their comparative ages, the duration of their school life up to the point of comparison, and the education they may have absorbed by contact, most of which elements are more nearly questions of individual judgment than of fact.

The only medium of educational measure appears to be an examination in certain subjects acquired by rote, and it would be manifestly absurd to contend that because two children had passed the same examination—and the educational result thereby determined to be the same—the gross per-capita costs should, of necessity, be also the same. It would be likewise absurd to argue that equal per-capita expenditures had produced equal educational results.

A practical knowledge of the foregoing conditions would seem to lead logically to the preparation of statistics based only upon facts the sources and authenticity of which, as stated before, are beyond question.

There are certain facts and features which are common to all school systems, whether great or small, and when reduced to statistical form may be classified under a comparatively few heads, and yet, when placed in parallel, furnish a vast amount of information available for purposes of true comparison; for instance, the accounts of properties, which may be indicated as follows:

1. Showing the conversion of cash into a property asset—Purchase of sites.

2. Showing the conversion of cash into another property asset—School buildings and original permanent equipment.

3. Maintenance of such properties—Annual cost of disbursements for repairs, replacements, etc. This item should be regarded as a practical offset to depreciation, in the sense that it should represent approximately the annual cost of up-keep, sufficient for the purpose of maintaining the school plant in at least its original condition of efficiency.

4. Operation of such properties—Including the various items incidental thereto, such as janitor services, sanitary supplies, machinery supplies, and fuel for heating the building, etc.

Property items should be regarded as separate and distinct from the direct cost of education, and should not be included in any per-capita cost, for the reason that, while such items of themselves are comparable to a degree as between school systems, any division of investment, maintenance or operating charges into per-capita costs, either by themselves or in combination with directly educational charges, leads to incongruous and misleading results. For instance, let us take conditions in a great city and compare mentally the cost of a building and its site, in a strictly urban part thereof, with another in the suburbs with its more easily constructed building and less valuable site, but with similar seating capacity. Again, compare the same buildings so far as relates to the physical and educational use of the same. One may have facilities for an elementary school, lectures, playgrounds, cooking-rooms, laboratories, workshops, baths, etc.; the other building, with same seating capacity, may merely contain the requisites for conducting an elementary day and evening school.

How could the cost be practically, and not theoretically, segregated into the several activities? And yet the proposition has been seriously advanced, and has even found favor in spots, where quantity of statistics is considered more desirable than quality, and logical presentation of facts is subordinated to thoughtless desire to produce a mere arithmetical computation of useless character. It is quite possible to enter so largely into the statistical field as almost to render the production of statistics superior to or more important than the conditions or facts which give rise to them.

To a large extent the same principle applies to the *maintenance* and *operation* of the various school properties; such items should have no place in combination with strictly educational expenses, but should be treated separately—comparable in volume but not by unit. To emphasize this point, compare mentally a school building, occupied to the extent of its normal capacity, with another such building which is overcrowded. It

would follow that the more congestion existed the lower would be the per-capita cost of maintenance and operation, and, from a statistical standpoint, the school building with normal conditions would suffer by comparison. In the foregoing example a single school plant has been taken as the unit for illustration, on the ground that the application of a false principle in one case is sufficient to emphasize the error in the whole.

Having treated of the school plant and the maintenance and operating expenses, the most important item of all comes into view, namely, the object for which the community has invested its money—public education.

What activities are maintained, and what are the items of tangible expense or cost which can be directly charged to each without entering into the realms of speculation or apportionment?

The main items of strictly educational cost comprise teachers' salaries, books, maps, stationery, supplies, libraries, etc., and may be applied directly to every educational activity, and, if such group of expenses becomes standardized, would be comparable as between all school systems thruout the land, from the smallest district to that of the largest city. Real, equal, and understandable elements would be brought together and the cost of educational activities could be compared function by function, without any mental reservation or feeling that incongruous factors entered into the figures.

With a fixed formula for the computation of attendance, and only standard items of expense common to all school systems included, educational per-capita cost would cease to be illusive and would mean something.

Administrative cost comprises the compensation of all officers and employees engaged in the control of the school system but not attached to any particular school activity. To this should be added the incidental expenses of school control, such as printing, supplies, etc., of the administration itself.

The expenses of administration may be classified as follows:

1. Educational administration or professional control, such as salaries of superintendents, examiners, *et al.*, and their expenses.

2. Physical administration, covering the salaries of officers, clerks, and other employees and their expenses.

Administrative expenses are not distributable in a practical sense and are comparable only as to volume. Even this method of comparison may not be quite as illuminating as might be wished for, because methods of control of school systems are widely divergent, which would seem to indicate, when preparing statistical reports, the desirability of adopting some form of statistical statement, other than figures of cost, which will indicate the salient features of organization and control.

It has been stated before, in other words, that a school report would be incomplete if confined to just one of the component parts, which, when

combined, form a perfect school organization, viz., the educational, the fiscal, and the physical. A statement showing the cost of a school plant would fall short of its true purpose if there failed to be shown, in connection therewith, what the plant consisted of. A school building costing $200,000 or $300,000 would appeal to the citizen on the ground that it represented a large investment, and it may even occur to him that it is too large, in the absence of information as to its size, location, construction, appurtenances, equipment, and the various features which are to be found in our best and most modern edifices. It seems proper then to furnish the whole story, and place in close connection, or even in parallel with the cost, such physical facts as are important and serve to justify and explain the object and nature of the expenditure. The same principle applies in connection with the maintenance and operation of school plants. If the various educational uses of a building are shown in combination with the figures of attendance of each activity, the reason for increased or enlarged expenses under either or both heads becomes comprehensible.

Dr. Brown, the U.S. Commissioner of Education, has already won the enthusiastic support of the principal school accounting officers in the country, and if he can secure your interest and valuable assistance in the great work of revision and standardization of school statistics, the success of the proposition is assured. He deserves our united support.

The association which I have the honor to represent is desirous of your co-operation and sympathy in this movement, and suggestions and ideas from you along constructive lines would be appreciated. Much is heard on the subject of "uniformity" until that word has become abused. Practical school people know that uniformity in educational matters is impractical, and if, in a sense, such a condition were possible, it would be inexpedient and unnecessary. However, we can, with propriety, agree on standard methods of accomplishing some things which will be to our mutual interests and help, and, after having so agreed, friendly competition as to how best to perform our respective tasks may prove of some value in the cause of public education.

A DECADE OF SCHOOL ADMINISTRATION IN BOSTON

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The great reform of the decade in Boston school administration was the substitution on January 1, 1906, of a school committee of five for one of twenty-four. This created an organization of great potency and led to numerous important reforms. I can hardly hope to sketch them briefly, much less attempt their adequate relation, in the time allotted me. I will, with your permission, do what I can within the limits set.

The new school committee began its administration by the abolition

of subcommittees which were the agencies thru which the old board had largely transacted its affairs. This not only resulted in the absolute publicity which now prevails as opposed to the older method of doing business behind closed doors, but necessarily required enlarging the functions of the school officials and strengthening their hands to a degree which meant a substantial reorganization of the whole system of school administration. These officials in view of their increased importance were placed upon tenure and were charged to a very large degree with the duties of the subcommittees of the old board.

The financial department of the school committee was at the outset completely reorganized. A board of apportionment was created to divide properly the sums appropriated for supplies and incidentals, and one official was appointed to buy upon proper requisitions, and another to audit the bills. Many effective systematic economies have been introduced. Coal is today bought at a price determined by chemical analysis, light and gas charges are much lower than they used to be, all purchases are made upon open competition and many other minor economies are now in effect. The main function of the business agent, an official created by the new school committee, is to classify expenditures and to act as its financial adviser. I invite your attention to his report which shows as thoro a financial diagnosis of the system as does the report of any expert railroad accountant. The allotment with precision of the proper amount for expenditure for each item in advance is now under careful study by him and will soon be available. The school committee has not only attempted to handle well existing appropriations but has also secured increased appropriations for the support of the schools.

The custody of schoolhouses and the supervision of the janitor force was placed by the new school committee in the hands of the schoolhouse custodian. The appointment of janitors must by law be made in conformity with civil-service rules. The promotion of janitors, which is not regulated by law, has been placed by the new school committee upon a strict merit basis and their compensation has also, in the last decade, been put upon an automatic scale. All pull has, in short, been abolished from the field of appointment, promotion, compensation, and removal of janitors. I invite your attention to a detailed examination of this system.

Various functions of subcommittees of the old board have been intrusted to the secretary. He now deals with all applications for the use of school premises under fair and uniform rules and has stimulated a widely extended use of school buildings and school yards. He now enforces properly and uniformly the rules and regulations of the school committtee with the result that a system which was notably decentralized because of historical and administrative lack of cohesion has been closely and harmoniously unified under just and uniform regulations.

The whole system has been symmetrically articulated. The super-

intendent's term of office has been extended from two years to six years and his powers have in all respects been immensely enlarged. The supervisors have had their term of office extended and their name changed to assistant superintendent and their powers have been greatly increased. To the superintendent and assistant superintendents have been transferred substantially all of the functions of the subcommittees of the old board. Under the old régime the school system was administered by these subcommittees in general and by the division committees in particular. Today the educational side of the public schools of Boston is administered by the superintendent and the assistant superintendents. The powers of the principals have been enlarged. They have been invested with the right to pass such legislation dealing with their respective districts, not inconsistent with that of their official superiors, as they deem wise. The powers of teachers of all grades have been greatly increased and the teacher today thru the various teachers' councils and teachers' conferences exercises far more proper influence than ever before. The result is that the scheme of school administration has been made a harmonious whole.

The school committee has earnestly aimed to improve the teaching service. It has in the last decade raised the standard for admission to the normal school from which most of our elementary-school teachers come, created for the benefit of the pupils of that school a model observation and practice school, appointed a supervisor of practice to make this part of the work effective, and upbuilt in many other respects as well the strength of this most important of all schools, the normal school. The school committee has also appointed a supervisor of substitutes to observe and assist the normal-school pupils after graduation and before permanent appointment. It has, in short, created in this way an elaborate and well articulated system for the education, observation, and assistance of young teachers. The entrance to the service has also been carefully safe-guarded by the new school committee and all appointments of new instructors are now made upon a civil-service basis. Comparative merit instead of pull determines appointment. Promotion of instructors in the service depends upon relative efficiency, and increase in salary is now dependent upon the passing of various promotional examinations and not, as in the past, upon the mere ability to live and fill a place. The new school committee has taken other steps to stimulate efficiency in the service by creating a system of sabbatical year's absences on half-pay for the purpose of travel and study or rest, by arranging with neighboring colleges for the establishment of courses for the assistance of instructors in the public schools, and by the establishment of a maximum age for admission to the service as instructor, of forty, and a maximum age of retirement from the service, of seventy. It has also secured a pension for teachers whose years of faithful service entitle them to consideration when waning efficiency compels their retirement. The new school committee has, in short, endeavored to

guard the entrance to the service, to better the conditions and to stimulate the efficiency of those in the service, and to make possible the retirement of superannuated teachers under proper conditions.

Important changes have been made in the elementary schools. The average number of pupils per teacher has been reduced from fifty-three, which it was a decade ago, to forty-four, and the course of study has been shortened from nine years to eight years. This latter reform involved the establishment of a new and better curriculum and the division of each class into groups progressing at different rates of speed. These have proved reforms of far-reaching significance.

The moral development of the children has been carefully considered and in the reorganization of the truant officers' force, in the creation of the supervisor of licensed minors, in the establishment of the disciplinary classes, in the creation of the juvenile court thru the initiative of the school committee, and in other important respects progress has been made in this direction.

No subject has received greater attention from the school committee of Boston in the last decade than has the health of the pupils. A department of school hygiene of broad scope has been established. Extensive playground activities have been undertaken. Systematic school athletics have been organized. Advanced courses in physical education have been established. Nurses have been appointed to co-operate with the school physicians. Systematic measuring and weighing of school children have been undertaken. Open-air rooms have been established in many districts and an open-air school has been located in a park outside the city. A careful study has been made by competent physicians of the health of the children attending the first three grades and their recommendations for bettering conditions are being carried into effect. A committee of oculists and electricians was organized to study the effect of light in the schools upon the children and under their expert advice improvements have been made in this direction. A medical inspector of special classes has been appointed to examine children whose normal mentality is questioned. Each child in one large division of the city has been examined to see whether it is a diphtheria carrier for the purpose of endeavoring to stamp out that disease, and finally with a view to emphasizing more forcibly upon pupils, teachers, and community alike the value of good health, a health day has been established in the public schools of Boston. The new school committee has realized thoroly the necessity of combating in the public schools the unfortunate conditions which surround child life in a great congested city and has done and is doing all in its power to remedy these conditions.

The necessity of further vocational training in the elementary schools has not been overlooked in the last five years in Boston. Experiments are now being conducted in various parts of the city in manual training,

shop arithmetic, working-drawing, design, shopwork, tool and metal work, textile work, printing, bookbinding, shoe-repairing, furniture-making, cabinet-making, metal-working, sheet-metal working, silver-smithing, hand and machine sewing, cookery, housekeeping, and domestic science; and a committee on vocational advice has been established consisting of instructors within the service and of citizens from the community at large to assist the children in shaping their future careers upon graduation from the elementary schools. The foundations of progress along these lines are being rapidly laid and are likely to serve as the beginnings of great changes in the direction of making the elementary-school curriculum prepare its pupils better for life in an industrial era.

The new school committee has, however, never failed while it has been reaching out in the direction of the health, the morals, and the vocational training of the children to emphasize those fundamental studies which have for many decades served as the basis of the public-school system of a great country and which will always continue to constitute the bone structure of school anatomy.

In the secondary schools also important changes have been made. Those pupils who regarded the high schools merely as social centers are being eliminated under carefully formulated rules. Earnest pupils who are deficient in their studies are saved a year by atttendance at the summer high school. Uniformity of instruction and economy have been promoted by a better classification of the high-school teaching force. A number of the ill-attended and therefore costly electives have been eliminated from the high schools and new courses of study have been established. The speaker believes that no part of the public-school system stands in greater need of reorganization than do the high schools, not because of any deficiency on the part of the high-school masters, but because of the rapid change in conditions in this country in the last decade. Each school of secondary education ought, in my opinion, to be either cultural, commercial, or industrial, long-term or short-term, in order to attain singleness of purpose and consequent greater efficiency at less expense per pupil. Some progress has been made in this direction. Purely cultural secondary schools we have always had. The high school of commerce to prepare boys for commercial life, the high school of practical arts to prepare girls for home-making or for feminine occupations, have been established by the new school committee, and the mechanic-arts high school, established seventeen years ago, has been devoted by the new school committee to the single aim of preparing its pupils for industrial efficiency instead of for higher institutions of learning as well. These are all long-term secondary schools. Short-term secondary schools have also been established, i.e., the trade school for girls, whose name explains its purpose, and the school for bookbinding and printing, whose aim is equally obvious. A short-term clerical high school was also established, but the lack of funds

has resulted in its temporary suspension. The new committee has appreciated that the ideal of democracy is the extension to the individual of the best possible opportunities and has endeavored in its five years of administration to approximate in the various respects outlined above this high purpose.

The continuation schools have also been approached by the new school committee with the same ideals as guides. In the evening elementary schools proper, in the evening elementary schools for non-English-speaking people, in the evening elementary industrial-school classes, in the evening high schools proper, in the evening commercial high schools, in the evening industrial schools, and in the part-time day continuation schools for the wholesale leather and dry-goods industries, a new departure in this country, the new school committee has reorganized and extended its system of continuation schools into a well-rounded and effective whole. This, it is hoped, will constitute the basis for far greater extension along these important lines.

The establishment of the new school committee has, in brief, led to many reforms whose effects have been far-reaching. The mere recital of them has constituted this paper. While their just exposition in true relation to the systems of the past and of the present and to the ideals of the future would exceed greatly the limits fixed, yet the large effects of the work may be pithily summarized. The whole system has been removed from the field of politics. The most helpful citizens in their particular lines have been drafted as advisers. The educational and financial administration of the schools has been made moral and efficient. The selection, promotion, and retirement of teachers, officers, and other employees of the school committee have been placed upon the most liberal, progressive, and meritorious lines. The welfare of the pupils from the point of view of their health and morals have been materially advanced. The educational opportunities afforded to pupils in the elementary schools, in the secondary schools, both long-term and short-term, in the evening schools of various types, and in the other continuation schools have been immensely enlarged, and in all branches—in the old studies which constitute the basis of all public-school education, in the higher cultural subjects, and in those commercial and industrial fields which have become so important in this age, the public-school system of Boston has not only kept abreast of the best school systems in the United States, but has, in some respects, it is hoped, helped to set the standard on this continent. The new school committee has, in short, purified and vitalized the public-school system of Boston.

LIBRARY DEPARTMENT

SECRETARY'S MINUTES

OFFICERS

President—Edwin White Gaillard, New York Public Library.....New York, N.Y.
Vice-President—Charles E. Chadsey, superintendent of schools .....Denver, Colo.
Secretary—Miss Mary Hanna Johnson, Public Library .....Nashville, Tenn.

FIRST SESSION—Tuesday Forenoon, July 5, 1910

This department held all sessions in the lecture hall of the Boston Public Library. The first meeting convened on July 5, 1910, at 9:30 A.M., with the president in the chair. The program was opened by Mr. Horace G. Wadlin, librarian, Boston Public Library, Boston, Mass., with cordial words of welcome.

The president then presented the question of the proposed abandonment of the department, and asked to be instructed as to the sentiment and wishes of the department in the matter. He was directed, by unanimous vote, to urge the Board of Directors to continue the department, if possible, in its present form.

William McAndrew, principal of the Washington Irving High School, New York, N.Y., presented the main topic of the day, the management and conduct of the high-school library, in a paper entitled "The High-School Librarian." This was discussed by Miss Margaret Ashmun, of the University of Wisconsin, Madison, Wis.; A. E. Peterson, Morris High School, New York, N.Y.; and Arthur I. Andrews, assistant professor of history, Simmons College, Boston, Mass.

The Chair appointed the following Committee on Nominations:

Miss Mary E. Hall, librarian, Girls' High School, Brooklyn, N.Y.; Miss Grace Thompson, Miss Leah Lewinson, New York, N.Y.

SECOND SESSION, July 7, 1910

This session was called to order with the vice-president in the chair. The subject for the day's discussion was opened by James V. Sturges, principal of the Genesco Normal School, Geneseo, N.Y., with a paper entitled "The Training of Teachers in the Use of Books and the Library and in a Knowledge of Children's Books." He was followed by Mrs. Mary E. S. Root, children's librarian, Public Library, Providence, R.I.; Miss Mary C. Richardson, State Normal School, Castine, Me.; F. D. Boynton, superintendent of schools, Ithaca, N.Y.; Horace G. Wadlin, librarian of the Boston Public Library, Boston, Mass.; and Dr. Robert H. Beggs, principal of Whittier School, Denver, Colo.

The Committee on Nominations submitted the following names as officers for the ensuing year:

For *President*—Edwin White Gaillard, supervisor of work with schools, New York Public Library, New York, N.Y.
For *Vice-President*—J. L. Gillis, librarian, California State Library, Sacramento, Cal.
For *Secretary*—Gilbert O. Ward, librarian, Technical High School, Cleveland, Ohio.

The report was accepted and the nominees declared elected.

The following resolution was presented and adopted:

Resolved, That the Library Section of the National Education Association send a protest to the American Library Association against the present custom of holding its

annual meetings on approximately the same dates as the National Education Association, thus making it very difficult for the Library Section to secure representative librarians as speakers, and impossible for its members to attend both meetings.

On motion the report was accepted and ordered filed.

(Signed) MARY E. HALL, *Secretary pro tem.*

ROUND-TABLE, JULY 8, 1910

The round-table was conducted entirely by Mrs. Adelaide Bowles Maltby, librarian-in-charge of the Tompkins Square Branch of the New York Public Library, who both planned and carried it into effect. The general subject was "Elementary School Class Reference Work in Public Libraries."

After the round-table the formal meetings of the Library Section adjourned. There was, however, an informal gathering for discussion, of a group of twenty-four librarians and teachers directly interested in high-school libraries.

(Signed) EDWIN W. GAILLARD, *President*

PAPERS AND DISCUSSIONS

THE HIGH-SCHOOL LIBRARIAN

WILLIAM MCANDREW, PRINCIPAL WASHINGTON IRVING HIGH SCHOOL, NEW YORK, N.Y.

I remember a bright lad in our town whose father secured him a place in an egg-crate factory. At the end of the week the proprietor returned him to his father with the statement, "Take him back, Tom. I'm too old to learn my business all over."

The boy was showing everyone how to run the factory.

You are, it seems, to have a similar experience now, I'm afraid. My career as a librarian totals up to two months, yet here I am launching out in an essay seeming to aim to teach you your own business.

The position of a modern librarian in a high school seems to me like that of a missionary in a heathen country. No one but a librarian can realize what an astounding amount of ignorance we high-school teachers exhibit regarding the purpose and operation of a library. The number of college graduates devoid of the most elementary traces of the index-habit is remarkable. Time and again in my library experience, I have observed teachers searching thru reference books, who were too poorly trained to look in the table of contents and too proud to ask for help. When I was almost a librarian I had questions asked by teachers which necessitated my going to the card catalog and myself showing them what we had on the subject they were interested in. There persists in this teaching occupation a foolish ignorance of practical things, accompanied by a pedantic laziness which it seems as tho some teachers hold on to as a mark of distinction. You see it when the teacher goes to a bank or an express office or a tax department.

There is more or less of a popular belief that the school should teach the use of books. The honest librarian is disposed to doubt the efficacy of the school's service in this regard because so many teachers do not themselves know how to use books. What do you think of the scheme of getting teachers and students every term to assist the school librarian in making topical catalogs? I remember with the liveliest pleasure the meeting of a catalog club twenty-three years ago, one hour a week in the library of the high school in which I was a teacher. The principal was the foreman. He sat at the desk with a stack of new books; we students and teachers sat at the tables with cards, pens, and blotters. He taught us to print a plain block letter with the pen. He assisted us to imagine the things a searcher after knowledge might want to get out of the books. He showed us how to determine the most likely catch-word that a reader would expect to serve as the index-title of the cards we were writing, how to catalog the same idea under different words, how to make a pertinent abstract on the card. I remember that he tried a way of having the same book gone thru independently by different catalogers and that he walked about the room looking over our shoulders and advising us. I cannot recall any high-school classes that were educated so well hour for hour as this catalog club. You see why, do you not? In the first place, it was in reality a reading-class practicing that very sort of concentrated, purposeful book-searching which is the hope and the despair of those who urge the value of reading. In the second place, it wasn't like most of the study and recitations in high-school teaching, lacking in definite and natural motive. We knew that the products of our study were real, we knew they were permanent, and lastly, there was an altruistic flavor to the whole business, which our principal, by the way, did not fail to uphold. "Just think," he would say, "what a service you are doing for everybody in the school and for everybody who will come into it for years and years." Before I left that institution, a dozen boys had made a beautiful cabinet of card drawers to contain the collection of indexes which had outgrown the capacity of the original cabinet.

Possibly you expert librarians will conclude that we overdid our cataloging. Maybe we did. But such was the practical knowledge gained by us who formed the catalog club that it seems to me that, were I in charge of such a scheme, I would be justified in having hundreds of cards made that I might afterward weed out. The big result of having students and teachers actually read, abstract, and catalog books is the power these people gain in the use of literary tools.

That is one of the first pieces of missionary work a school librarian can perform at the beginning of every term. He can try to impress upon the mind of the principal of the school that a lesson during regular schedule time given by the librarian to every section of the entering class will be a means of furthering exactly the results which the principal wants high-

school education to secure. Ask that the class and its teacher be assigned to you for a forty-five-minute period at the beginning of the term; get them into the library, explain the working of it. Demonstrate the catalog arrangement. Put two or three pupils thru the whole operation of finding, getting, and returning a book. Then in an interesting and illustrative manner demonstrate the library's various uses, as an aid to study, as a reservoir for compositions, speeches, and debates. Show where the indexes to periodical literature are, the bound magazines, the scrap-book collections; use your experience as to what bound magazines are the richest in promise of help and then make a feature of the entertaining value of your library. Tell about your funny papers, your illustrated magazines, your story books, your splendid travel collections, your fascinating biographies, and the delights of reading famous books.

It is in the field of reading for entertainment, and for real culture, that the library missionary is likely to find herself in heathen surroundings; for the high-school atmosphere is not very highly charged with culture in the sense of enlightenment, breadth, and human interest. The public library has grown and the librarian with it. Every library has felt the change. The high school has dragged or stood still. Its culture has crystallized around minute points, some trivial and all of them too restricted. People are in high schools today concentrating attention upon the same small portions of three Latin authors that they studied a quarter of a century ago. The operations of the Latin classes are stultifying, microscopic, and dull. As literature, Latin and Greek are dead in high schools. One sees, year after year, boys and girls made stupid by the attenuated courses in these subjects. Time and again there is brought to one's attention in the schools in which a free choice exists, the inferior ability of the Latin students as compared with those who have not elected that subject.

The teaching of English language and literature in the high schools has dried up from imitation of the Latin method. The amount of literature studied is so small and the movement of the classes so slow that only a mind benumbed by repetition of these methods over and over again could endure them. The books are dissected. The natural state associated with dissection is death. The literature teachers are killing literature. Yet the high-school literature teachers are the most conscientious, hard-working, well-intentioned murderers you can imagine. They are doing as they are told. They are faithful, loyal, hired assassins. They are part of a system which is planned to get results which are measurable. As teachers, we have made a noble effort to rise from mere memory-drillers. My high-school principal had a motto in the assembly hall, "The purpose of the school is to teach you to think." Most of us have gone no farther than that. It isn't far enough. It doesn't take us into the realm of fine arts at all. It keeps us in the field of investigating, observing, comparing, reasoning, and concluding. It sends us to art galleries with a tape-measure.

Does it seem to you that the qualities of music, painting, and literature, which classify these studies among the fine arts, are the same qualities that give arithmetic, geometry, and spelling their educative value? The literature teachers are pondering with the secondary ingredients of literature as if art critics would analyze the chemical ingredients of the paint in the dance of the Nymphs. Analysis, definition, classification, memory work, and drill are good for all of us, but what have they to do with literature as a fine art?

The emotions are the parts of us that belong to the arts: beauty, pathos, humor, vexation, interest—you can name them if you take the trouble. But the English teacher is required to fix principles, to ground the rules, to drill, to analyze, and to do other things that are intellectual, not emotional. Not that literature isn't intellectual, dear no; but that it is so much more! Our organized education has made us afraid to let go of the systematic, exact, dictatorial style. Our pedagogical phrase is, "What's the answer?" It is impossible for us to realize that in art there's no *the* answer. I had a class of normal-school graduates not long since in what the catalog of the association called "general literature." It seemed impossible for a long time to get these girls to understand that we were reading various extracts for the fun of the thing. It seemed rather unworthy and sinful. They could not get away from a traditional obligation to fix a date to everything they said. They must imprison in their notebook every fact that showed its head. It was a hard struggle to keep these coming teachers from turning my intended culture class into an exercise in counting and sorting facts. This is the kind of girl our schools are educating to teach literature. The more exact she is, the better examination she passes, and so the exact person survives in larger numbers and more effectively banishes human interest from the teaching of such subjects as genius created. The mark of high-school teaching is uniformity; the mark of genius is difference. The slogan of high-school teaching is drill, repetition. The essential of literary enjoyment is surprise, novelty, movement. The natural stimulus of good reading is its creation of a desire to read the book thru. The school's method is to hold you in the book so long that you are sick and tired of it. The test of a good book by ordinary persons is, "Is it interesting?" That is a reason for condemnation by many a high-school teacher.

In the high school with which I was connected eight years ago, we held a council and resolved to remove from the library and lock up in a cupboard the one hundred books which were most frequently taken out because we believed that the girls who were failing in their Addison were wasting their time on *Hugh Wynne* and *Uncle Tom's Cabin*. We expatiated convincingly on the need of reading the *Essays of Elia* only to have our feelings hurt by accidentally hearing some girl whisper, "Laura Jean Libby for mine!"

We are suffering from too perfect a system. It has fixed too rigidly its subjects and its methods. Our society is growing away from it.

It is only after a long familiarity with high-school procedure that I venture the opinion that its result is not culture, but formalism.

There is still an inherited hope among the public that youth may get culture from high school. Thousands apply for entrance. But the significant fact of high-school statistics is the refusal of thousands to attempt high school at all and the early withdrawal of thousands whom it fails to hold. One could hardly at this date claim that the high school is an institution of progress. However promising the prophesies of educators may be here and there, the institution itself remains traditional.

On the other hand, there has not been a meeting of this Library Association without numerous allusions to the recognized fact that the modern library has abandoned its chief traditions. The library is no longer a repository of ancient practices. The librarian wants people to read. He would prefer a girl who reads trash to one who reads nothing, for a trash-reader has some taste which may be directed. He knows that the fundamental force which leads to culture is interest, and he seeks to make his means of culture as attractive as may be. The high-school librarian comes with these notions into an unfriendly country. Its methods of bringing readers and books together is that of compulsion. The time-honored delight of browsing among books is abhorrent to the systematic high-school teacher. If the librarian succeeds in cultivating any frequenters of the reading-room, he must expect to get rumors of complaints by teachers whose subjects they themselves cannot make sufficiently interesting to compete with the miscellaneous books on the shelves. The high-school librarian must expect to have his commendable efforts to lure young persons to his collections discouraged by influential highbrows who hold that knowledge of the big things of current life are inferior to the number of piers in Caesar's bridge. He must expect to find his book-appropriation exhausted in the purchase of volumes wanted by the teachers who recommend books which will never be taken from the shelves; he must expect to find his reading-room at the very times when students have the most reading-time closed in order that the final examinations may be sorted on the tables or the term marks may be recorded. He must expect to be paid a smaller salary than teachers who know less, work less, teach less, and discipline less than he; but for all that he has today the most promising missionary field there is. If he proceeds with tact, with gentleness, with courage, with intelligence, and with good humor, just as a missionary in an old and highly organized heathen society must advance, he will find himself each day securing just the sort of benefits for mankind that it is the glory of the missionary and the librarian to achieve.

DISCUSSION

Miss Margaret Ashmun, instructor in English, University of Wisconsin, Madison, Wis.—What Mr. McAndrew has said is so convincing that it needs no comment from me to show its truth. What I shall have to say is merely in the nature of corroboration. I speak from the standpoint not of the librarian but of the teacher of English in the high school and the college. Naturally, what has interested me most in Mr. McAndrew's paper is the matter of English teaching, which has, as you have noted, received some rather severe comments. The justice of those remarks I am sorry to say I must admit.

It is safe to say that two-thirds of the poor teaching in high-school English classes is due to the failure of teachers to realize that high-school pupils are boys and girls—not men and women. The first- or second-year high-school students are children with the child's love of a story, of action, of the lively, vigorous, pulsating facts of life. Why should these young people be denied the wholesome things which their natures demand? They are hungering for the bread of reality and we give them the cold stone of abstraction.

This unwillingness on the part of the teacher to recognize the needs and desires of the younger students extends from the classroom to the library. A while ago a man showed me with pride a list of outside readings which were to be demanded of all of his high-school students. It was a very pretty list. Dryden and Pope were conspicuous upon it, Chaucer, Milton, Shelley—all the great names were there: so many books for the first half-year, so many for the second half—and all to be reported upon at much length in written book reviews. The plan looked very impressive, laid off in squares in the high-school yearbook. But my heart ached for the poor children. What did they care about the qualities of style of Dryden or De Quincey? They were craving something quite different—something which should stimulate and divert them, thrill them with tales of action and heroism, interpret for them the wonderful, puzzling world in which they had only lately discovered themselves to be. The man who devised that list made the mistake that hundreds of high-school teachers and librarians are making, and to which Mr. McAndrew has referred—that of not allowing for the emotional, the human, the vivid, irrepressible love of reality that is one of the chief instincts of the high-school boy and girl.

That man simply could not understand that it was wise or safe to give the students anything that they enjoyed. "The more suffering, the greater gain," seemed to be his theory of pedagogy—and a fatal theory that is, when it is applied to the reading of books. It is only by enjoying books that one can ever learn to love them. It is only by loving books that one can become in any sense a cultured sharer in the great literary benefactions of the ages.

It may be thought from what has been said here that a low standard of taste is to be set up, that mere sensationalism is to be allowed and recommended because some crude youngster happen to like that sort of thing. I am sure that neither Mr. McAndrew nor anybody else wishes to be so understood. It is possible to lead young people on by gradual stages from the most uncultivated taste to something creditable and worthy—but the stages must be gradual and the uncultivated taste must be frankly admitted at the first. Cramming the classics down the throats of reluctant young persons is a dismal and undignified work. How much better to set them before a full table of less delicate fare and let them feed with the zest of healthy appetites, developing sooner or later a recognition of the flavor of what was caviar to them when they began!

The best use of the high-school library is accomplished when the English teachers and the librarian combine their forces, agreeing to make the most of every individual student, beginning at whatever stage of development he has reached. But most of all the librarian must make of herself an inspiring force. She must never forget that she is trying above everything to develop in the students a real taste for good literature.

She must be able to imagine herself a restless, action-loving, hero-worshipping boy, or even a vapid, sentimental, feather-brained girl. She must put herself in the place of the student whose needs she is trying to supply, giving him not what she herself admires but what his crude young appetite craves.

She must work with infinite patience, with a sincere love of the books that she is handling, with a profound and personal interest in the young people of the school. Then, however satisfying the results—and they are bound to be satisfying—the high-schoo library will be doing its best to make the high school a place of culture.

A. E. Peterson, Department of History, Morris High School, New York, N.Y.—In regard to library work in connection with their subject, history teachers may be divided into three groups:

First, those who hold that the use of the library is absolutely superfluous, who want everything within the covers of a single well-chosen textbook thoroly digested, and argue for the disciplinary value of this kind of instruction.

A gentleman of this class expressed this view before the history section of the Association of the Middle States and Maryland last winter. The only thing he wanted the pupils to use outside the textbook was a question book on the contents of said textbook, and he closed with the axiomatic statement that every boy who had mastered the thousand questions contained therein was invariably successful in passing the college examinations. You see it is certainly not safe to assume that all teachers believe in library work.

A second class consists of those who think the best textbooks too narrow, who believe in library work, who recognize the value of getting different viewpoints, who think the child should be interested as well as disciplined, but who find their good intentions crushed beneath the upper millstone labelled "Lack of time," and the nether one labelled "Examinations."

The third class consists of those who generally recognize the necessity of examination, who feel tremendously the limitation of time, but refuse to be crushed by the grinding of these millstones. They will not be bound by present considerations only; they see in the children before them the men and women of tomorrow, whose duty it will be to build well and strongly upon foundations already laid; they want these children to become open-minded, broad-minded, fair-minded citizens of the nation; they see in the subject of history the greatest possibility for training in this direction; they will risk much rather than have their pupils lose the opportunity for acquaintance with books, many books, plenty of books.

There are in this class those extremists who go so far as to discard the textbook absolutely and resort entirely to the library. Such a course seems to me inadvisable except under unusual conditions: for instance, if a local committee permitted the use of some wretched textbook only.

However, unless I am very much mistaken, what teachers need most to help them in the use of the library for history are practical devices, ways and means. Most schools are without librarians, trained or untrained. In most schools the libraries are not cataloged. Many, indeed, are without any library room, and difficulties arise. The use of the library is apt to be subversive of discipline in schools where there is no librarian. I found once on assuming the principalship of a high school that the library had been locked up for a year.

In a school without a librarian it often works well to have branch libraries, as it were, within the building, history books placed in the history classroom, science books in the science rooms or laboratories, etc. What we want is that pupils use the books, and they will certainly use them more if they are near at hand.

I think I never got better results in history teaching than when I had a large table and a case of history books in the corner of a room where the pupils both studied and

recited. Certainly the less "red tape" the pupil has to follow in order to get at the library book, the better.

I would like to tell you of a device that I have employed this last year that seems to me adaptable to almost any conditions in a large or a small school. I had three divisions of second-year pupils studying the eastern nations and Greece, reciting three periods per week for a half year—not an extensive amount of time I think you will agree. I organized each division with a chairman, secretary, and executive committee. I set apart five periods during the term when special reports should be given, based on library reading, the program for each such meeting to be arranged and executed under the charge of the class officers.

Some two weeks in advance of each meeting I gave into the hands of the class committee a list of topics like this:

TOPICS SUGGESTED FOR HISTORY CONFERENCE

	1	2	3
1. An imaginary speech by Cimon before the Athenian Assembly advocating sending aid to Sparta during the Revolt of the Helots.			
2. An imaginary speech by Pericles in opposition.			
3. More about the Athenian Assembly.			
4. Greek burial customs.			
5. Greek dress.			
6. Herodotus and his writings.			
7. Greek traitors.			
8. Medical practice among the ancient Greeks.			
9. Famous Greek Temples.			
10. Slavery in ancient Greece.			

A carbon copy of the same was placed in the hands of the librarian. From this list of topics choices were made.

It was understood beforehand that the reports were not to be read from a paper, tho notes might be used; also that the time limit was five minutes per pupil. The meetings were conducted with due regard to parliamentary order, and discussion of the topics presented was encouraged in the minutes preceding adjournment.

When we were discussing the Athenian Assembly one class was ambitious enough to present—and very effectively—a scene from Aristophanes' *Acharnians*. And one of my colleagues had a class in Roman history which had a Julius Cæsar meeting. Papers were given on "Cæsar as a General," "Cæsar as a Writer," "Cæsar as a Statesman," and a scene was presented from Shakespeare's *Julius Cæsar*.

I tried a similar experiment with three classes studying later English history, the pupils in this case averaging two years older. The results were equally satisfactory. You will see, of course, that in this device I was trying a little experiment in social education as well as furthering the use of the library.

Before closing, allow me to present this bit of testimony: library work ought not be abandoned or despaired of because of apparent lack of books. Teachers should make their wants known. I was once teaching in a Connecticut city whose public library was rich along certain lines. The librarian (newly appointed, by the way) demurred when I requested the loan of these books to supplement those in the school library, but an appeal to the trustees soon placed them at my disposal—an appeal, by the way, that was far-reaching because it inaugurated in that city for the first time a system of co-operation between the public library and the public schools.

At another time, earlier in my experience and in a smaller community where few books were available either in the school library or the public library, an appeal to the state board of education brought a case of just such books as I desired, loaned to the

school for the entire term. Another case for the next term followed the return of the first one. You see I have proof of the truth in the Good Old Book, where it says:

Seek and ye shall find;
Knock and it shall be opened unto you.

Arthur I. Andrews, assistant professor of history, Simmons College, Boston, Mass., briefly emphasized certain points already made by the previous speakers. In particular, he called attention to the aid which the work in cataloging as suggested by Mr. McAndrew would be to the teachers of history in colleges. He stated that the students were generally found lacking in knowledge of how to get at information contained in books, and that any such knowledge of indexes, tables of contents, and other parts of a book, would be exceedingly valuable when a student was confronted with courses of history in the colleges. Mr. Andrews denied knowing how time for this instruction could be secured in the secondary schools, but desired to emphasize its value from the point of view of the college teacher.

Mr. Andrews commented upon the point made by Mr. Tripp as to leaving good literature around where it would be handy, and he emphasized how much this would aid in giving the right kind of book an equal opportunity for consideration. He thought lists of reading, such as of outside reading or of summer reading, would aid materially to give the better class of books this equal chance to be read. He felt that a student was less likely to read bad books, or trash, if the better class of reading was made easily available. He doubted whether there would be so much reading of Laura Jean Libby and her class of writing if the lists of Scott, Stevenson, Kipling, and the like, were placed before the student.

Mr. Andrews expressed the hope that the liking for Scott and the other writers mentioned was not entirely a thing of the past as far as small boys were concerned. He quoted his own experience with a small boy of thirteen who had shown a great liking for Scott's novels, an appreciative liking. He also told a story of the small boy who came to a librarian with a sheepish air and asked for something on the Book of Common Prayer. As he was dressed in overalls, and showed clear signs of acquaintance with manual labor, the librarian was amused to hear him go on and say that he was tired of "them fictious books." She was also more surprised when the Book of Common Prayer was kept two weeks and then renewed. Later the same boy took out several books on church history.

Reverting to Scott, Mr. Andrews expressed the opinion that there was a Scott age for boys from about ten years to thirteen years of age, when the average boy could easily be induced to wade thru the less interesting early chapters with a promise of exciting doings further on. He also expressed the thought that if a boy were thoroly inoculated with Scott, he would care less for such things as *Dare-Devil Dick, the Desperado*, and would never get away from "sensible" reading.

Another point that Mr. Andrews made was in regard to special topics, calling attention to the need of some supervision for such topics. He stated as his opinion that the topics should have a limited number of references to each and that the bibliographies should always be annotated with the student's opinion as to the value of each reference.

He also spoke of the way in which a boy or a girl was influenced by the binding. Some bindings have been known to make even Sunday-school books seem attractive, while a stern, stiff-looking binding would not attract, but would cause boys and girls to pass such books by in dismay.

THE TRAINING OF TEACHERS IN THE USE OF BOOKS AND THE LIBRARY AND IN A KNOWLEDGE OF CHILDREN'S BOOKS

JAMES V. STURGES, PRINCIPAL, STATE NORMAL SCHOOL, GENESEO, N.Y.

We assume it to be true that within the last twenty-five years radical changes have taken place in the aims and methods of teaching and in the means employed for disseminating knowledge; that courses of study both for the child and the adolescent are ever making greater demands upon the teacher, the equipment, the organization, and the resources of the school; that the remarkable progress in the last decade—commercial, social, political, intellectual—has brought the library with its countless volumes within easy reach of the humblest citizen of our commonwealth; and finally, that if the library, now that its work is standardized and bibliography is become a science, is to become a real power in human uplift, all must be taught how to use it.

If these assumptions are true, the schools for the training of teachers are brought face to face with a serious problem. Coincident with new courses of study in the arts and the sciences are courses in the schools of pedagogy to prepare teachers for these special departments. But not so with the library in its relation to the whole public-school question. For example, the state of New York, exclusive of New York City, has fourteen city training schools, ninety training classes, and eleven state normal schools. It has approximately eight million volumes in its traveling and school libraries, valued at about four million dollars. It has recently adopted an excellent syllabus for its elementary and secondary schools, one that requires the finest preparation of teachers in language in literature. But not 5 per cent. of these schools are giving instruction in the use of books and the library and in a knowledge of children's books. And New York State is not an exception.

In 1907, a year after the publication by this Association of the Report on Library Instruction in Normal Schools, three hundred letters were sent out to learn how many normal schools over the country were giving courses in library methods. The answers received showed that ten different normal schools out of a total of two hundred and fifty-nine in the United States were giving such courses. In 1908 investigation showed that over thirty normal schools over the country were giving library instruction, and during 1909 still other normals have introduced such courses.

While these statistics, in the light of assumptions made, prove the existence of a serious situation, they also clearly reveal the intention on the part of the normal schools all over the country to meet one of the vital needs of the schools and the public.

Is the need a vital one? The following data will answer this question. In June, 1908, a group of forty district school children applied to the

principal of a union school in New York State for permission to take Regents' examinations in the preliminary subjects. All were admitted with the following results: thirty-nine of the forty passed in all subjects except English; thirty-nine of the forty failed in English. The reason is obvious.

In September, 1909, of eighty-five students entering upon the two years' course of professional study at the Geneseo State Normal School,

63 had not read *King of the Golden River*
50 had not read *Arabian Nights*
57 had not read *Treasure Island*
68 had not read *A Child's Garden of Verses*

Last March a questionnaire was sent out to seventy-five principals of training classes in New York State, to which twenty-five replies were received. They are interesting because they show the situation not only in the semi-professional schools but also between the public library and the public school. Eighteen of the twenty-five report no lessons given to students in the use of books, three that lessons are given incidentally on the use of the catalog, contents, etc., sixteen report no lessons given to students on the use of the library, three give the work incidentally with English work, one school requires lessons on the use of the catalog of all who use the library, but no credit is given for the work. The questionnaire further shows that children in the grades are not taught the use of books by the teacher, except incidentally. To the question "How is the outside reading of the children directed?" the following replies are given:

Two say by the syllabus; one school sends printed lists of books to parents of children; a few use reading-lists; one school had one talk at chapel by a representative of the State Library Department; in all other cases nothing is done. Twelve of the twenty-five say that no books are sent from the public library to the classroom; sixteen say that the librarian (four have no public library) does not give talks on the use of books; and fifteen say that she does not give talks on the use of the library. Only two of the twenty-five say that the public librarian sends books to the classroom and that the librarian gives talks to the school on the use of books and the library.

Of thirty-five replies received to a questionnaire sent out to Geneseo graduates, seventeen say that the librarian does not give lessons on the use of the library and fifteen have no public library; twelve say that no books are sent to the classroom for use and thirteen say that the librarian does not give talks on the use of books. To the question, "Who has charge of your library?" thirty-two reply, "In charge of principal, teacher, or no one." The statements made in these questionnaires are amply verified by a trained librarian of wide and successful experience in school and public library work who says:

A few years ago I accepted a position in an experimental school in the West where the textbook has been abandoned and the laboratory method of teaching was being tried. As preparation for the course I had had both a college and a normal-school course. At college the doors of the library bookcases were locked and never had I been required to do an original piece of research work. At the normal school we were given definite references to read, the exact pages of the book being indicated always. In this position where the library was made the supplement of the course of study, I was helpless. I wasted hours in misdirected effort in the library. I did not know the reference books or the sources of my own subject. I knew none of the tools useful to teachers and was helpless in putting myself in touch with other experimental work over the country. I did not know what to read to children or what to suggest for their own reading. Nowhere in my entire school course had I been trained to help myself in using books or in looking up a subject, and nowhere had I been required to investigate or read books for children.

The views of all were admirably reinforced by Mr. William H. Austen, reference librarian of Cornell University, at the state library meeting of New York State held at Lake George last October:

As yet a large part of the work in training college students in using the library is taken up with teaching them how to use a catalog, an index, a cyclopedia, and other steps preliminary to doing anything more advanced. The great service that public-school libraries can do for students preparing to go to college is to teach them these preliminary steps toward more advanced research problems, to give them drill in technique, with little stress on the facts found, but all stress on the methods of finding them.

If, then, the need for library instruction in the schools for the training of teachers is real, the question arises, how shall the need be met? The answer is, make the library the center of the educational activities of the school for the training of teachers. Make it the laboratory, the workshop of the grades, the high school, the professional school. Plan the work of the whole school so that child, youth and adult may be trained to use library tools accurately, skillfully, intelligently. For, as Sarah Louise Arnold says,

Ability to use books is not a gift—it is earned by thoughtful practice. The power to use reference books comes only through wisely using them. The art begins with the use of the dictionary and the supplementary reader and here should the teacher first apply herself to teach the use of books of reference.

The late Dr. Canfield once said,

The difference between one who is trained to use the library and one who is not is that the one who is trained can get more information from a copy of Webster's *Unabridged Dictionary* than the other can get from a library of a thousand volumes.

If this work is to be done in the schools for the training of teachers—and where else can it be done?—what shall be the course in the professional school? In my judgment there should be two courses, one general and required of every student; the other elective and open to a limited number who by training, scholarship, and general culture are qualified to do the work.

Let me digress sufficiently at this point to say that there is little demand and no need for emphasizing the technical side of library instruction in

the school. It is the function of the library school to train librarians. It is the function of the professional school to train teachers who can direct the reading of children and lead them to an intelligent use of books.

The general course, therefore, to be required of every student of the professional school will consist of at least ten lessons to the entering class on the use of the catalog, periodical indexes, and reference books; and ten lessons to the graduating class on the study of children's books.

The aims of this course will be, not to train librarians, but first, to make the entering class at home in the library and to teach them to use books as tools and find what they need without waste of time. Second, to prepare the seniors for selecting books for the grades, directing the outside reading of the children, and teaching children to use books and the library intelligently.

The entering class will be given practical problems to look up in the library and will thus become familiar with library tools and indexes; the seniors will give practice lessons to the children of the model school on the use of the dictionary, table of contents and index, and of the card catalog. The seniors will also read several children's books and thus obtain a standard for selecting books for children.

The elective course should be a part of the professional course and should consist of one lesson a day for two years in

1. Administration of small school library: cataloging, classification, book-selection, reference work, mechanical processes, etc.—150 periods.

2. Children's literature: study of different classes of books for children, story-telling, etc.—100 periods.

3. Practice work: teaching of library lessons in grades and high school; practice in all library processes—150 periods.

The aim of this course will be to prepare teachers to organize and administer a small school library, in addition to special teaching in English and history.

That such courses would be of inestimable benefit to the schools and the general public is apparent from the following replies to a questionnaire recently sent out to the principals of the training classes of New York State. These are some of the questions with their answers:

1. From your experience, what preparation in library work would be most helpful to students in normal schools? Replies: At least one recitation per week for school year on (*a*) instruction in classifying and cataloging; (*b*) instruction in managing library; (*c*) preparation to teach children how to find and handle books.

2. What is the greatest need of the training school libraries? Replies: (*a*) better and more intelligent management; (*b*) resourceful librarian in charge; (*c*) good reference books and knowledge of their use; (*d*) trained teachers who know books and how to use them; (*e*) that books be cataloged.

3. How can this need best be met? Replies: (*a*) by having teachers trained; (*b*) by requiring teachers to pass examination in library methods; (*c*) by classifying books and cataloging them.

4. Would it be a help if one of your high-school teachers had taken some practical

library work in the normal school so that she could take charge of the school library in addition to some teaching? (*a*) Nearly all say Yes, emphatically; (*b*) some say: Most assuredly, undoubtedly, decidedly yes.

The value of such courses is also proven by the testimony of those normal-school graduates of the past five years who have had such instruction. What these teachers themselves have to say is most convincing. We have the testimony of recent graduates, about seventy-five in all, representing normal schools giving library instruction in Maine, Michigan, Wisconsin, Virginia, Kansas, Massachusetts, Illinois, North Dakota, and New York. With about five exceptions these graduates have taught the children in their grades to use books and the library and have done something toward directing the outside reading of the children. This is a typical answer to the question "How has your library work in the normal helped you in using the public library?"

My library work in the normal has enabled me to feel at home in any public library because I know, first, how to look for a book; second, where to find it; and third, how to use the book when found.

And to the question, "How has your library work in the normal helped you in your classroom teachings?" this reply is typical:

My library experience was a most valuable, and I would almost say indispensable, adjunct to the work of the classroom. I could give my students definite assignments because of knowing what class of books to turn to, but what was better still, I could help them to use the library intelligently.

Another student says,

Library methods has been one of the very best and most helpful courses I have ever taken in the Normal School.

This is what a teacher in a small lumbering town in Michigan says,

If you could have a photograph of our school library both before and after I took the library work in the normal it would tell a very interesting story.

As a result of their work in library instruction, several teachers were inspired to establish and organize school libraries and at least two teachers were instrumental in securing a public library for the town.

One teacher says he passed an examination for a high salaried position in the West, one of the five questions being on work required of him in library methods.

A teacher of library methods in a normal school in Illinois says:

Our students upon attending a university have told me that they used the university library more easily and to better advantage than the majority of their classmates. The librarians of public libraries have told me that our graduates have co-operated with them most satisfactorily; others of our students upon taking charge of schools have organized and improved the libraries that they found there, or have worked up an interest in the subject and established school libraries where there were none.

A normal-school teacher of library methods in Kansas says,

I am confident that library training for teachers lies at the very root of both the library and school question, especially as I hear enthusiastic reports of what the study has done for teachers in the field.

She tells of one of her graduates who received the highest salary paid any normal-school teacher in the state because of her knowledge of books and how to use them. She also quotes from a city superintendent who says,

I think every person who expects to teach should take library science. His value to a community would be unbounded.

In my judgment, and my conclusions are reached after careful investigation and wide experience in teaching, the building of large libraries, filling them with costly books, employing trained librarians, will not of themselves solve the library problem. The schools for the training of teachers must do the work. The teacher must be trained to use books and to know children's books.

Not long ago a company skilled in the arts and crafts had the pleasure of examining a biplane. The were delighted with its simplicity of construction, strength of proportion, beauty of outline. It was a machine so skillfully constructed and carefully built as to reveal in a wondrous way the marvelous inventive power of the human mind. It appeared to them to be a perfect, complete, mechanical product, a finely organized machine of wondrous possibilities, waiting for someone who understood to make it go. And such is the school library of today, splendidly organized, admirably equipped, full of rich possibilities to childhood, to youth, to adult, waiting for the teacher to be trained to make it go.

DISCUSSION

Mrs. Mary E. S. Root, Children's Librarian, Providence, R.I.—Mr. Sturges has stated that it is necessary to train normal students in the use of "a catalog, indexes, and reference books." This seems a great pity, for such instruction should be given long before normal school is reached. If you must teach it in normal school, you must teach it in college, and how about the boys or girls who never even reach a high school? Are they never to know how to use books properly?

Also in regard to instruction in the technique of library science. Overemphasis should not be laid on it unless a public library or a public-library commission fails to vitalize its work. School libraries, outside of those for primary schools, and perhaps a small collection of reference books, have no excuse for existence if the public library or library commission is attending to its business.

The one thing of supreme importance, however, suggested to me in Mr. Sturges' paper is the training of the normal-school student in the knowledge of children's books.

The normal school in Providence has no so-called "library science" course, but it does some very practical work. Early in the history of the junior class a visit is made to the public library. Guides are furnished and each department is visited, with special attention called to the aids in the Reference Library and the Children's Library which would be helpful for these to-be teachers to know. Later the literature teacher discriminates between method in teaching English and a knowledge of children's books, with a heavy emphasis on the latter, which forces the students to use the children's library as

a laboratory. In turn, stories which are folk-tales, fairy tales, myths, hero tales, symbolic and realistic tales are taken up by the pupils. Under folk-lore subdivisions are made as to sagas, drolls, cumulative stories, and *märchen*. The public library is forced to equip a classroom with books which contain these stories, and to draw from its main collection, folk-lore journals, etc., for the historic side. As the class progresses with each subject, notice is sent ahead several days that material may be collected and ready for use. The students gain a valuable insight into children's literature, but the librarian notices that after graduation the teacher who takes up the upper-grade work does not seem able to suggest books for her pupils' reading. She knows well the fairy tales, a few hero stories, but she has only a scrappy idea of the whole subject of children's literature. Were I a teacher of literature in a normal school, and knew of a librarian within traveling distance of my school who had made a study of children's literature, I would beguile her into coming before my class to give a talk on the history of children's literature, to cover the subject broadly. Then I would announce to my class that a thesis would be due on a certain distant date on this subject. That would force the public library to make a collection of books on the history of children's literature. In such a collection would be found copies of a horn book, a battledore, a chap book, the New England Primer, and books such as Field's *Forgotten Children's Books*, and Moses' *Children's Books and Reading* (for its helpful chart), Edgeworth's books, some "Sunday-school" books, with a few of our best and our worst modern children's books. If the student finds her subject other than one full to the brim with interest, she had better abandon teaching. In this way a standard of ideals is formed and the students know what characteristics in a book make for a good or a poor book.

Then I would have my class take up specific children's stories, folk-tales, hero tales, etc., and the student will know where to place them.

We are trying to be eminently practical in our schools today. We admitted years ago that what mattered was what a child loved when he finished school. We can teach him to love certain studies, teach him to love to do the many little things that can be done with the hands, teach him to love athletics, but all these things bear a small part in his after-life. The one thing which we can teach him which influences his whole life—widens his vision and brings solace when sorrow, ill-health, and old age approach—is the love of books. Teach your normal-school students to know children's books—it is of supreme importance.

Mary C. Richardson, teacher of physics and mathematics, State Normal School, Castine, Me.—Imagine two pictures: The first, a school with about two thousand books, unclassified, half of them scattered around in the assembly room, or on teachers' desks in recitation rooms; the other half, called the "circulating library," locked up in cases and carefully protected by paper covers, open to the students twice a week, they getting no conception of what a real library means.

The second picture, the same library two years later; the two thousand books brought together in one room; a card catalog, open stacks, appropriate library furniture and decorations; and most important of all, a room full of happy, quiet, industrious students.

What has brought about this transformation? I am glad to have the opportunity, today, of placing the credit where it belongs, and of showing how easily any ordinary teacher can do for her school what I have done for the Normal School of Castine, Me.

There must be inspiration, information, funds, and hard work. I, however, was only the agent and instigator of the idea. The inspiration came from teaching a year in the Geneseo State Normal School with Miss Ida M. Mendenhall. She is devoted to the idea of instructing teachers in the use and knowledge of books, and has a sincere belief in the necessity for the work.

The information came from one hour's accidental, or shall I say providential, talk with Mr. James I. Wyer, of the Albany Library School. A friend once said, "All that is

necessary is a clear vision of what needs to be done, and a determination to do it." Mr. Wyer gave me the clear vision, even to the exact number of cents needed. So clear and definite was it that, altho an hour before I had not conceived the idea of breaking away from old traditions for several years, I sat up till midnight that night composing the letter which brought within two weeks from the State Board of Trustees the ninety dollars needed to organize our library. One thing more—a month of honest, hard labor on my part with a trained librarian, for which I was paid in full by the pleasure and practical benefit which I derived from it, and thus our library was organized.

Naturally, now, students must be taught to use the card catalog intelligently. The curriculum for Maine normal schools provides no such course. How then shall we meet the problem?

My advanced algebra class, instead of reciting five periods a week, as has been customary, now does the same amount of work in four. The next question that arises is, "If the class do the same amount of work in algebra, and spend time on their library work besides, aren't we taking time away from their other studies?" What they learn in the library class saves them enough time in preparing their studies to more than compensate. The main trend of the ten lessons is learning to use library tools, including indexes, reference books, and bibliographies. This is important, but no more so than the incidental work carried on largely by suggestion. Spare moments at school are supposed to be used in getting a handling knowledge of the best children's books. A few moments of each lesson are used in asking one or two students the following questions: "What book for children have you examined this week?" "Is it suitable for a boy or girl, or both, and in what grade?" Another valuable result of this incidental work is the effect on the general reading.

These ten lessons come at about the middle of the course, the third term, and this would leave a weak point if it were not for co-operation. The value of a library course varies directly with the square of the co-operation and inversely with the square root of the amount that is forced. At Castine nearly every department co-operates, and all is optional. For example, the reading teacher, about the first day, asks the entering class to find what books of Holmes are in our library. When the lists come in the next day with gaps in them, the question comes up, "How did you find out?" Thus the acquaintance of card catalog is made. The teacher of agriculture has the class after their course in library methods is finished. One of the first lessons this spring was to find all available material relative to horses, cattle, sheep, and hogs, each student being assigned a special topic. The literature teacher, who has the graduating class, has made excellent application of the course. While the classification of poetry was being studied, individual problems were given which required the use of Granger's *Index to Poetry*. One special topic assigned was, "Find material in the library relating to Beowulf, including one magazine article referred to in Poole."

It is the function of the teacher to train the child, while the normal schools and colleges train the teacher. It is, then, the duty of every normal school and every college to send its graduates out equipped with a knowledge of books and how to use them.

F. D. Boynton, superintendent of schools, Ithaca, N.Y.—I wish to confine my remarks to a single phase of this problem. What can we, who are now in control of the children in our schools, do to direct intelligently their reading, while our successors are receiving the excellent training so clearly outlined by Dr. Sturges and which we have not had?

A large share of this responsibility of the immediate present rests with those who formulate courses of study. There was a time when reading consisted in training for a certain mastery over words. While this mastery over words is absolutely essential and must be retained, the immediate use of the words mastered is of almost equal importance.

A course of study in reading should consist of two parts: first, the getting of new words, i.e., the enlargement of one's vocabulary; and second, the power to use these words for the purpose of getting thought, or putting our vocabulary into immediate use. By a course of well-selected supplementary readers, the child will have been brought well into contact with the standard fairy tales, folk-lore, wonder stories, myths, hero tales, etc., in addition to some of the best of general literature, by the time he finishes the sixth year.

Language work is but another form of reading in the elementary grades and should be so used as to enrich the child's mind by the committing of choice memory gems and selections of permanent value, and by standard stories read or told to the class by both teachers and pupils. In this way, much may be done toward laying a strong foundation for home reading in the grammar and high-school grades, and toward forming a correct taste in the choice of things to be read.

In almost any locality, or in the near vicinity, it is possible to secure the services of someone interested and to a degree qualified to give the elementary instruction in the selection and use of books, which our present teachers have not had, as so clearly pointed out in the paper under discussion. Such help can be obtained without any material expense by securing such persons to give a course of short lectures upon specific points, immediately followed by laboratory exercises under the guidance of the speaker. While it may be admitted that such a course would necessarily be somewhat superficial, nevertheless it would be along right lines and definite work of great value accomplished over a limited field.

This done, the next step would be the actual selection of proper books for the child to read. The very greatest care is here needed. Splendid help can be had by writing to the Education Department of New York State asking for copies of the *Elementary Syllabus* and *Handbook No. 25*. The Boston, Pittsburg, and Buffalo public libraries issue catalogs containing children's books by grades. The Department of Education at Washington publishes a volume which may be had for the asking, and known as the "A.L.A. Library." The New York State Library issues a circular of the five thousand best books for a small library, and also an annual circular of the five hundred best books for the year. Thus may we have for the asking the crystallized experience of ripe scholars and experts in the matter of the selection of proper books for children to read.

Where there are city or town public libraries, much help can be obtained from these, and the problem is comparatively simple. Where there are no such facilities, funds for the purchase of books and a proper case in which to keep them when not in use can be obtained by having pupils collect old papers, magazines, scrap iron, lead, rubber, etc., and bring them to the school to be sold to junk dealers; by giving candy, ice-cream, and pop-corn sales, school exhibitions, etc.; and interesting the parents in this particular phase of their children's education.

It is the nature of all young animals to act, and action is the first law of childhood. Restraint is the result of training. If a child is left to himself, he is bound to act. Nature commands him to do so. If he has something interesting to do every hour he is awake, all his problems are solved. A child thus employed can easily enter the high school at twelve years of age and graduate at sixteen, and still have plenty of time for all sorts of sports and games, for music and other forms of diversion and education without having spent an hour at home on school work before reaching the seventh year. I know this can be done because I have worked such a program three separate times in my own family and it has worked in other families where the home can be led to co-operate with the school. No child is naturally idle, and if left to himself may do much of what society has decided to call evil, yet without the slightest trace of evil intent on his part. Our greatest difficulty in dealing with children is that we judge them from the adult's plane of experience and read into the child's action what is not there. To illustrate: We

teach a child to read, thus creating a new appetite, yet do not furnish him with the food to satisfy the new craving. In other words, he is left to his unguided fancy or to the suggestions of his immature associates in the selection of material to meet this new demand. Reading to the healthy mind is what food is to the strong body. All children read books outside of school hours. The all-important question is who is to select this material.

It is clearly up to the teachers now in charge of our schools to furnish suitable reading for our children to do outside of school hours, but I fully realize that the contract is a large one.

Here is a partial list of the books read by one girl, fourteen years old, outside of her school course:

The Bible, edition published by Century Co., read twice.
Aesop's *Fables*.
Arabian Nights.
Wonder Children, Welknap.
Alice in Wonderland.
Aladdin and the Wonderful Lamp.
The Dog of Flanders.
Andersen's *Fairy Tales*.
The King of the Golden River.
Little Colonel Stories, 10 vols.
Little Pepper Series, 3 vols.
Huckleberry Finn, Twain.
The Blue and the Gray, Oliver Optic.
Hoosier School Boy, Edward Eggleston.
Signal Boys, G. C. Eggleston.
Robinson Crusoe.
Young Folks' Library, 19 vols., edited by Thomas Bailey Aldrich.
Wild Animals I Have Known, Seton.
Lives of the Hunted, Seton.
The Tales of the Sand Hill Stag, Seton.
The Reveille, Van Dyke.
The Ruling Passion, Van Dyke.
The Other Wise-Man, Van Dyke.
The Keeper of the Light, Van Dyke.
The Call of the Wild, London.
White Fang, London.
Several of the Henty Books.
Several of the Alger books.
Treasure Island, Stevenson.
Green Mountain Boys, Judge Thompson.
The Rangers, Judge Thompson.
Pioneers of the Rocky Mountains, McMurray.
Pioneers of the Mississippi Valley, McMurray.
Pioneers on Land and Sea, McMurray.
Washington's Young Aids, Tomlinson.
Boy Officers of 1812, Tomlinson.
In the Wyoming Valley, Tomlinson.
Three Colonial Boys, Tomlinson.
Three Young Continentals, Tomlinson.
Two Young Patriots.
Two Thousand Years Ago, Church.
Paul Jones, Seawell.
The Toy Shop, Gerry.
Mrs. Wiggs of the Cabbage Patch, Hegan.
Story of the New England Whalers, Spears.
The Fire Flies' Lovers, Griffis.
The Faery Queene for Boys and Girls, Church.
Betty Wales, Freshman, Warde.
In His Steps, Sheldon.
David Harum, Wescott.
Sketch Book, Irving.
Little Men, Alcott.
Little Women, Alcott.
Jo's Boys, Alcott.
Under the Lilacs, Alcott.
Eight Cousins, Alcott.
The Last of the Mohicans, Cooper.
The Prairie, Cooper.
The Pathfinder, Cooper.
Red Rover, Cooper.
Deerslayer, Cooper.
The White Company, Doyle.
Coniston, Churchill.
The Crisis, Churchill.
Seats of the Mighty, Parker.
Self Culture, Vol. I, Draper.
Red Cap Adventures, Crockett.
Red Cap Tales, Crockett.
Shiren and Her Friends, Stables.
The Heart of a Boy, Lee.
Tales from Shakespeare, Lamb.
Ba-Long-Long, Jenks.
Homeric Stories, Hall.
Stories from Life, Marden.
Adam Bede, Eliot.
Silas Marner, Eliot
Daniel Deronda, Eliot.
The Mill on the Floss, Eliot.
Twice Told Tales, Hawthorne.
House of the Seven Gables, Hawthorne.
Wonder Book, Hawthorne.
David Copperfield, Dickens.
Old Curiosity Shop, Dickens.
Oliver Twist, Dickens.
Pickwick Papers, Dickens.
Tale of Two Cities, Dickens.
Kenilworth, Scott.
Ivanhoe, Scott.
The Pirate, Scott.
Quentin Durward, Scott.
Fortunes of Nigel, Scott.
The Talisman, Scott.
Woodstock, Scott.
Lady of the Lake, Scott.
Daily Paper.
Literary Digest.
Standard Monthly Magazines.

The size of the task should not cause dismay. The opportunity is equally great. Help for us in this work is at our doors awaiting our voice to speak it into life.

ROBERT H. BEGGS, principal of Whittier School, Denver, Colo.—I heartily indorse all that has been said this morning of the value of books as tools. That teachers are entitled to a better training in the use of these tools than they are now receiving admits of no question, and I am glad to learn that our normal schools are waking up to their responsibilities in this direction. But before books can be used as tools to any great extent they are used, and largely used, as companions. The average grammar-school pupil reads many books. They are his companions when he seems to be alone, and they are influencing his thoughts and feelings as do his companions on the playground or elsewhere. That boy has not had "a square deal" who is allowed perfect freedom in his choice of his associates. This we all concede, and must we not concede also that it is gross injustice to a boy to allow him to choose his own books? Books furnish a large part of the child's intellectual and moral food; is it more wise to allow him to choose food for his mind than food for his body? In the choice of food, appetite cannot be wholly ignored, nor can taste be entirely disregarded in the choice of books. If we choose those beyond the child's possible appreciation, he will choose for himself. We should select books that are a little better than he would choose for himself, but the standard should not be too high. His taste must be gradually improved, and it can be improved by giving him, not the best, but the best he can appreciate.

But children of the same age differ widely in their literary tastes, hence a library for children must contain a wide range of books, and children should be guided in their choice. This guidance is properly the work of the home, but when the home fails, as too often it does, it can best be done by the school. To do it effectively, the teacher must be familiar with juvenile literature and with the special needs of each child in her class. This means a heavy tax upon the teacher's time and energies, but if we mean what we say when we reiterate that character-building is our chief purpose, our chief duty, we will not shrink from the task because it is difficult.

HORACE G. WADLIN, librarian of the Boston Public Library, Boston, Mass.—The knowledge of how to use books should be made of equal importance with the branches at present required in the schools, and training in imparting this knowledge should be given in the normal schools. The work of Dr. Sturges in this direction is to be highly commended, and it is encouraging that the example seeems likely to be followed elsewhere. The printed book is today the chief source of knowledge and of inspiration, yet neither the method of using books as tools nor the love of literature as a source of innocent enjoyment is imparted in the average school. The teachers do not regard instruction of this kind as essential, since it is not required in the ordinary courses of study, nor is it demanded to fit pupils to pass an examination for promotion or for entrance into the college, results to which, under present conditions, the energy of the teacher is mainly directed. There are individual teachers who love books and who know how much depends upon the intelligent use of books by the pupil after he leaves the school. Such teachers exert incidentally a helpful influence. But the work now done is purely individual and without definite method. It must be put into the required curriculum by those responsible for the courses of study, and not left to such incidental instruction as a sympathetic teacher may here and there find time to give. This, it seems to me, lies at the root of the matter. Its importance must be recognized as an essential element in the enlargement of the pupil's life. Until this is done complete co-operation between the schools and the libraries will not be possible; nor will those who come from the schools be able to make the best use of the library collections now everywhere accessible.

ROUND TABLE

ELEMENTARY-SCHOOL CLASS REFERENCE WORK IN PUBLIC LIBRARIES

MRS. ADELAIDE BOWLES MALTBY, NEW YORK PUBLIC LIBRARY, NEW YORK, N.Y.

The idea of having classes go from schools to libraries, there to be taught how to use books, is not a new one; nor is the object, since the object is simply education.

We are sometimes asked by teachers, "What does the library get out of such work?" Mr. A. E. Bostwick, of St. Louis, one of the foremost librarians of the country, describes a modern public library as one which

believes that it should find a reader for every book on its shelves and provide a book for every reader in its community, and that it should in all cases bring book and reader together. . . . . Habitual use of a well-selected library before and during school education will reveal aptitudes in various directions and will enable the student, especially if he have good advisers, to control the amount and direction of his formal education with vastly more surety than otherwise.

Briefly, the schools bear the burden of formal education, while libraries should lead in informal education. Schools are of necessity much given over to the mere acquisition of knowledge, but we all recognize the power which lies in enlightenment. If we believe what Plato tells us—that "there is a resident power in children to assimilate the purest expression of truth,"—we will co-operate heartily in the endeavor to give them creations which are not subordinate to the lessons they are to convey—which combine the artistic with the didactic. We will realize that it is essential to present facts in pure literary form as well in history and science as in English.

Literature and especially imaginative literature is the exponent of the life of the people and we must still go to it for our most intimate knowledge.

I confess to an old-fashioned idea in classifying topics to be taught. Therefore I feel at sea when a child of twelve years asks for a book on "biology," until I discover he wishes only to know about the growth of plant stems. Similarly—geography has always been just geography to me, or travel—pleasant and informal—not science, but it gives me pleasure to introduce one who knows whereof he speaks, and that is, Dr. Chadsey.

THE USE OF THE PUBLIC LIBRARY FOR REFERENCE PURPOSES BY THE ELEMENTARY SCHOOLS

CHARLES E. CHADSEY, SUPERINTENDENT OF SCHOOLS, DENVER, COLO.

The steadily increasing interest on the part of librarians of the public libraries of our country in the public schools is highly encouraging to all public-school officials. Libraries are now striving in every way to make the public library as useful to the public schools as possible. No pains are being spared to develop an interest in the use of the library on the part of pupils. This is being secured thru the bringing of pupils to the libraries, the explaining to these visiting pupils of the library and its use, and in many cases the making of arrangements between the librarian and the schools by which branch libraries are established in the various school buildings, resulting in a greatly increased use of the library.

The thought that a systematic use of the library for reference is practical, is of newer application. Certain cities have already well-established systems of this sort. New York City, for instance, has made arrangements by which at certain stated times, schools, as schools, visit the reference room of the library. The subject for investigation having been assigned some time before, the librarians have collected suitable matter, and the pupils are put to work in an effort to find in these books the desired material.

As the object of this work is to make the children familiar with the use of the index, the table of contents, and the other devices by which information can be easily obtained,

the reference books are so arranged that not in all cases will the pupil immediately find that which is desired. This difficulty immediately opens a way for the librarian in charge to assist the individual pupils, showing them the proper method of search.

It is reported that the results of this kind of work have been highly satisfactory. The pupil learns the way to the library, learns how to use the library, and to a certain extent is acquiring the habit of using the library as a place for reference rather than merely as a place from which story-books can be secured.

It is easy to see that the only limit to the usefulness of the library as a place of reference for elementary-school work is the capacity of the library itself and the time which can be spared for this work by the teacher. I can see that both of these limits are real, but before these limitations have been reached, there is great opportunity for effective work. No private or school library can hope to have the material which can be secured in the library in such subjects as history, geography, English, and science. I can see an especially useful field for reference work in widening the usefulness of so-called nature study. There is now a well-defined protest against devoting much time to that nature study which has to do with the less important, and certainly, to the child, less interesting portions of the animal world. The stories of adventure, tales of travel which are found in all good libraries, furnish admirable opportunities for the child to become familiar with the forms of life most interesting to him, but which he cannot hope to see at first hand. The idea that all of our education must be attained at first hand has become exploded. The library must always remain the great field for information concerning those things which at the present time are to the child unattainable. In a similar way reference libraries can broaden and make more vitally interesting the work of the child in history, geography, and English.

USES OF THE PUBLIC LIBRARY IN THE TEACHING OF HISTORY IN THE SCHOOLS

ADELAIDE STEELE BAYLOR, SUPERINTENDENT OF SCHOOLS, WABASH, IND.

At one time the library would have been of little use in the study of history, for the latter was then regarded as the record of a mere succession of events in time, and the textbook, with its chronological tables at the close of each chapter, was sufficient. But since we have grown to appreciate that history means far more than mere events, that it is life, and is teeming with people and their activities, the library is indispensable to a proper study of this subject. Aside from books on history itself, we find literature of every kind touching upon historical matters. Poetry, narrative, romance, drama, and a wealth of literary matter must be in constant use to make the study of history real.

Indeed, the abundance of such materials is so vast that the real problem of the history teacher is no longer where to find supplementary reading-matter, but how to systematize and organize the great abundance at hand. And this systematizing, thus enabling the pupils to use selective judgment and know how, in a large library, to find just what is needed, will produce far more important results than the acquisition of the specific information itself. For it is of much greater value to be able to locate needed materials, than to have stored away in memory a certain amount of information. Pupils know too little about how to consult works of reference, and find materials that will clarify the history work.

One form of literature that is especially helpful in history study is that of letters and journals. These original materials bring the pupil close to the life of the past and lead him to picture social conditions, and to see events and questions from all sides, thereby making his patriotism one of understanding rather than imitation.

The librarian and teachers should be the best of friends. Outlines of the history work for each grade should be in the hands of the librarian at the opening of the school

year, that she may be ready to describe and recommend materials in the library to assist in the work.

Each building may be furnished with lists of books that will supplement the history study, and give the teachers a basis from which to work in co-operation with the library. Children may visit the library in groups, at stated times, for the purpose of instruction in consulting the books there, and the librarian may have stated times for talks in the schools to interest the pupils in available books and periodicals and give instruction as to the value of visiting the library and finding suitable material.

One great source for such work is that of biography, with which any ordinarily equipped library would be plentifully supplied. The life and work of individuals appeal to children, who are naturally hero-worshippers, and about these they may cluster the important historical data.

With our enlarged school curriculum, the library is invaluable in all lines of work, but especially in history does it need to be a constant resource, aiding both pupil and teacher to make vital the real and important things of this subject.

CO-OPERATION WITH THE SCHOOLS

I. MISS ALICE M. JORDAN, CHILDREN'S LIBRARIAN, BOSTON PUBLIC LIBRARY, BOSTON, MASS.

When, as a grammar-school girl, I was studying what we vaguely called "The Constitution," a kind, wise relative presented me with the *Manual of the General Court of Massachusetts*, which proved to be a mine of information on many of the questions asked of an eighth-grade pupil in the study of civics. It was my first introduction to that species of invaluable reference books, an annual—an introduction which I have ever since been glad to make for other school children.

Not in all homes is there the same possibility of obtaining ready reference books. The public-school child of the present day must needs in many cases turn to the public library, and to the school librarian for a clue to the sources of information.

To prove to ourselves that public libraries have already taken a place in the school life of children, we need only observe the daily rush to the library from schools which are in the neighborhood. If we stand near enough to the desk we may hear the varied appeals which greet the librarian. Note the many applications for a good piece to speak, for material for a debate, for the countless well-worn topics, half a dozen children at a time asking for something about cotton or coral, Christmas or George Washington. These are the perennial requests which any assistant may dispose of in a few words. When the best-known books are in use she turns to her carefully prepared indexes or sends the child to do so.

"Where shall I find Chaucer's autograph?" "Please give me enough about 'The Star Spangled Banner' for a composition." "Something about the girlhood of Queen Wilhelmina." "I want something on the debate 'Resolved: the pen is mightier than the sword.'" "Where can I get a description of a baby in action?" These, or similar demands ranging as widely in scope, are usually in the day's work of a school librarian who has established her place in the community. In what way does she meet them? It is evident that the assistant who is required to keep in her mind the sources of information on widely diverse subjects is at a serious disadavantage unless she has both method and preparation. To systematize, then, the constantly recurring demands becomes important for questioned and questioner alike.

With the aid of the printed course of study and constant communication with the schools, as well as her own experience each year becoming richer, the library assistant is enabled to keep abreast of the more usual demands which come at regular seasons. Books may be analyzed for material bearing upon school work, subject-indexes may be prepared and made accessible to teachers and pupils. Newspaper and magazine arti-

cles bearing upon those aspects of local history and government studied in the upper grades should be preserved. When these clippings are mounted on manila sheets and filed alphabetically they become a valuable addition to the reference collection and contain the latest in formation, usually unobtainable in book form. Schedules of the requirements of different grades are often made, and successive years find the school librarian prepared to cope with the ordinary calls.

Everyone who has had to do with children knows that when you are most sure of having made a point plain there is still danger of misunderstanding and failure to comprehend. To lessen as much as possible the confusion existing in a child's mind, the school librarian needs to have an understanding with the teacher. For an ideal scheme of co-operation the teacher will find it best to be herself familiar with what the library has to offer on recognized subjects, with the time-saving bibliographies and guides. Not only for the lightening of her own tasks, but for the more intelligent guidance of her pupils a teacher needs to handle books and not merely to know their names.

Few school librarians can at a moment's notice provide material on the more complex and difficult topics which are occasionally given classes even in the elementary schools. Methods of reference work considered only by the librarian are at the best one-sided and incomplete. The teacher who sends word either by telephone, postal-card, or note that the pupils are a week hence to discuss certain subjects which will require their consulting library books, earns the librarian's blessing. Ample notice is important if satisfactory work is to be done. The best books on some subjects are often far beyond the comprehension of children. On other subjects the available material is unsuited to their reading. This is markedly true of subjects often chosen for debate, like that of Chinese immigration, and the question: Resolved, that the negro has been better treated than the Indian. If the child's gleanings at the library on these subjects are meager, does not the fault lie in an unwise choice of question for debate? At least, when after consideration it is still deemed wise to assign these problems, we may reasonably ask that the school librarian be given time for her preparation of books on reserve shelves.

But given the reference book, or shown its place on the shelf, the satisfactory result as an educational factor is by no means reached for many children. If you watch the successful recipient of a book which will tell about cotton, you observe that he sits down and after looking over the contents, in the majority of cases, instead of the index, he stumbles upon his material by chance. Without reading this over, he immediately begins to copy blindly and laboriously, scarcely waiting to see how much material he has before him or separating important from unimportant statements. Here, then, is evidence of need of method in teaching children how to take notes on what they are reading, as well as how to find their proper material.

At the root of these library questions which a child is required to search out lies a wider-reaching, a more important object than the mere answer or the accumulation of facts. The real end of all such work I take to be the teaching how to use books and the library. Hence, tho it is so much quicker to find the book and show the page and indicate the material, it is incumbent upon us to do no such thing. Children are little more inclined than other library users to depend upon a willing helper, and they are far easier to train in principles of self-dependence. A shelf of books may be indicated, titles may be named, a pupil who has come to the library to "look up" a subject should be given every facility to do so, but he should not have his work done for him. I think perhaps some of our reference work with elementary schools has failed in the past for two reasons: first, that the bit of "research," as it is sometimes called, was too difficult for the child, and second, because the school librarian, forgetting the larger aim, has been too mindful of immediate results and the saving of present time. How to help himself, how to use an index, how to run down a subject and pick out the salient points—what an amount of time would ultimately be saved, how much desirable information gained, if a child could but learn these things while still in the elementary school.

The Boston Public Library has since 1902 given instruction to the elementary schools on the use of the library. The grades selected for these lessons are the seventh and eighth, which visit the library in groups of thirty or forty during school hours with their teacher. Instruction takes the form of a simple teaching exercise with questions by the children's librarian and answers by the pupils. It has been found that a lecture not enlivened by questions does not hold the attention of elementary-school children. A class making its first visit is shown the arrangement and classification of books on the shelves and is then taught the significance of the parts of a book, the value of knowing what stands on a title-page—author, publisher, date—incidentally the meaning of the copyright and the features of the book's make-up. The use of tables of contents and different kinds of indexes, and the transition to the catalog as the index to the library follows naturally. Catalog cards are distributed and the pupils learn that these contain the information which is borne on a title-page, and hence that certain facts as to the age and scope of the book may be ascertained without seeing it.

For a first lesson this is quite as much as can be assimilated, and in my opinion it should always be followed up by practice work assigned at school and intended to bring out the points discussed at the library.

On the second visit the class is instructed in the use of reference books, as this is the year when grade children are given the most topical work for report at school. The simpler reference books—the dictionary in its various parts, the *International Encyclopædia*, the *Biographical Dictionary*, and the gazetteer, the books of ready reference like Larned, and annuals like the *Statesman's Yearbook* are among the usual examples discussed. Individual examination of the books follows, and pupils are asked to give their method of procedure in looking up certain school topics, with the names of books they should consult. After this, as after the first lesson, it is highly desirable that the class be given definite practice work to fix the acquired information more firmly in mind.

There is one objection which has been made to such visits from schools—the danger that children may look upon the library as a part of the school system and not as a place where they may find recreation. Such a danger is obviated if the school librarian makes a point of relating a part of her instruction to the play interests or hobbies of the children. I have found it feasible at the second lesson to ascertain from children their special interests and then to show them where they will find more about electricity or pigeons, or even baseball. Such a bait is sufficient to keep the boys, at least, from associating the library with tasks alone.

This experience of using books, at first under supervision, afterward alone, makes all reference work done in the library a part of general education and develops in children an independence and resourcefulness of incalculable value in later study. That all this is necessary at the library may imply a certain defect in the school system. But however that may be, the reference work which does not take into account the lasting value of acquaintance with books as tools, fails in its primary purpose.

II. MRS. MARY E. S. ROOT, CHILDREN'S LIBRARIAN, PUBLIC LIBRARY, PROVIDENCE, R.I.

At the 1909 meeting of the American Library Association Mr. John Cotton Dana, in a statistical paper on "Book-Using Skill in Higher Education," made the statement "that pupils come to high school poor readers and ignorant of books." Mr. Sturges stated yesterday that normal school students did not know how to use a table of contents, which statements are food for thought, to a librarian who for years has been attempting to instruct grade pupils in the use of books.

Our experience in Providence has been this. To the little child (and the primary school child who knows the library at all, in a big city, is the one who lives near to it) a library represents just one thing—a place where he can find stories of fairies, princes, and princesses. He reaches the fourth or fifth grade, and as anniversaries occur, he is asked to go to the public library for a book on Washington or Lincoln. There begins

to dawn on his mind a new relationship which the library may bear to him. More and more often, as his school life progresses, he has occasion to ask for books on definite subjects, but he cannot find that subject for himself. Some day, while still in his grammar-school life, he is a full-fledged young debater with a subject which demands the use of a great many different books. The attitude of the average child is this: If his subject is, "Which is the Greater Man, Washington or Lincoln?" and he has the Washington side, he expects the library to supply him with *one* book, "which has good points about Washington, and bad points about Lincoln," and if he is on the Lincoln side, a book with "good points about Lincoln and bad points about Washington." The child has learned to turn to the library for help, but has utterly failed to develop his critical faculty in the choice of his material, and leans in his use of books, with a sinking weight on the library attendant.

Meanwhile, for its elementary-class reference work, the library is forced to create a small elementary reference library. With the changing of many books in the rush hours, from four to six, with teachers also needing much attention, the librarian, as the little army of information-seekers swoops down on the library, is forced from the point of economy of time, to find for a child, quickly, the subject desired—no time for explanation as to how to find it—and leaning on the library attendant is seemingly encouraged. Yet, even if word has not been sent ahead by the teacher, the librarian quickly grasps the fact that a class's topic is "Rhode Island," and that the teacher has thoughtfully divided the topic so that one group of children has the state's history; other groups, native trees, minerals, etc.; others, famous Rhode Islanders; while Providence buildings, monuments, parks, streets, etc., are divided among the rest. She has the course of study; one year repeats another, and she must learn to handle children in masses, as does the teacher. So to her elementary-classroom collection, she adds for reference use only, histories of Rhode Island, biographies of native Rhode Islanders, publications of the educational department on the burning of the Gaspee, Roger Williams, Flag Day, Arbor Day, park commission reports, newspaper clippings on city monuments, tablets, and streets, Old Home Week programs, together with photographs of the older city buildings, and photographic copies of the civil compact, and first charter. To these she refers the children.

To the problem of inducing efficiency as to their use, the following method is adopted. Eight years ago each graduating class was invited to the library for a talk on the use of reference books. After one year realizing that this talk was too precipitous, invitations were sent to the seventh grade pupils to come, in class, for a talk on the make-up of a book. The next year the seventh grade was dropped and the sixth substituted because the library wished to get at the child earlier, and because the closing of the sixth year meant the closing of school life for many. Now the practice for several years has been that, as a part of the school curriculum, each sixth and eighth-grade class from every grammar school visits the library in turn, during school hours, accompanied by a teacher. To the sixth grade, the talk on the make-up of a book covers its process from the author's manuscript, down thru the hands of the publisher, printer, illustrator, and binder until it comes before the eyes—a book. Material to illustrate this talk is donated by printers and binders, and includes manuscripts, type in various points, paper of various kinds, including an 1865 newspaper and one a year old, four books in process of sewing and binding,—one being on a sewing bench made by a boy—book-cover cloth from the raw cotton to the finished product, and various samples of leath
A teacher commenting on the value of this talk says:

A child's ideas about books in general are broadened, and respect for
ducts of many kinds of technical skill is increased.

The first has a direct bearing on our subject, the second is a gol
to be neglected in this age of free textbooks where books as physical mat
consideration. So the librarian here kills three birds with one stone—s

cal make-up of a book, preaches without knowledge on the part of the child, on the text "vandalism with books," and leads the child, thru the description of the illustrator's work, to know some really worth-while story. "How to make" anything is appealing to a child and the using of the *Arabian Nights*, illustrated by Maxfield Parrish, *Robinson Crusoe* and *Pilgrim's Progress*, illustrated by Rhead Brothers, *Jeanne D'Arc*, illustrated by Boutet de Monvel, or *Swiss Family Robinson*, illustrated by Arthur Rackham, has proved the story of how pictures are made, not only interests but kindles a desire on the part of the child to read the story. An explanation of the library card catalog is also given at this time.

The talk of reference books follows very much the same lines that Miss Jordan has explained, but illustrates the relation of these books, one to the other; one definite topic is carried down from book to book. When the subject of "Aviation" is introduced the class is immediately alert. An encyclopædia is turned to, with special emphasis made to the date on the title-page, for general information on the subject: the *World Almanac* for the chronology of aviation up to 1910; the *Reader's Guide to Periodical Literature*, for recent flights; and *Who's Who in America* for a brief description of the Wright brothers.

It is not unusual now as visits are made to the library by the normal-school students to hear the remark, "I made my first visit to the library when I came with the class in grammar school, for the talk on reference books." There has been a gap of five years; was the talk worth while? Where the teacher is alive to the possibilities there are in using many books intelligently, "Yes"; where she is not, "No," because the best part of the instruction, the daily using of the books, which should follow such a talk, must be done with the teacher. A child, after a visit to the library with the class, writes quaintly to the children's librarian:

> We thank you, dear Mrs. Blank,
> For your interesting lecture;
> Whether sown on sterile or fertile mind,
> I cannot but conjecture.

Quite unexpected precocity, yet the child has cut the Gordian knot. The fertility of the soil is dependent on the gardener and the gardener is the teacher. The librarian can offer only the use of her land, and tools, and perhaps sow the seed. That is all. One of our teachers, a teacher with a vision, and there are many such, who fertilizes her soil with Opportunity and tills it with Perseverance, writes as to what she sees in this instruction.

> I always notice a greater interest in information studies (geography and history) as a result of more intelligent use of reference books.

That is what we want to get at, a broadening of school study, so that a live throbbing interest is there, not mere rote to be learned.

The two weak points in our Providence work, seen from the librarian's side, seem to be in the lower grades, and in the high schools. We need to bear in mind an earlier statement that in Providence only those primary-school children who live near to it use the library.

Libraries should see that more books are available for primary-school use at the schools, for nursery rhymes and folk-tales are the heritage of every little child and in reading many he quickly masters the art of reading well. It would also be well if the primary-school teacher could show each fourth-grade pupil the use of an index. Then when a child reaches the sixth grade, and makes his first visit to the library with the class, books are not strangers to him, and the librarian is given a background on which to work toward the highest efficiency possible in the use of elementary reference books.

The danger-line is reached at the high school. Our librarian visits each class in the grammar grades just before graduation, to emphasize the wider service that the library can be to a high-school student, and to try to guard against a falling-off in library inter-

ests. The high-school life is so filled with new all-absorbing interests—track-meets, basket ball, football, and baseball—that the whole scheme of life seems changed to the freshman in high school, and unless the teacher and librarian are very alert, the library will drop more and more into the background, and reading become almost an unknown quantity. This is the time—instruction having been given—that the greatest skill in handling many kinds of books, should be acquired.

To train a child so well in the elementary school, in the ability to find for himself what he needs in a book, to acquire skill in high school, that efficiency may be reached in the professional school so that leisure can be given for wider and wider reading, is the ideal in training in book-using skill toward which this library is working.

Seamus McManus in one of his inimitable Irish folk-tales, "Billy's Trip to the Moon," has Billy traveling thru space, hanging to the leg of a goose. "Now, Billy," says goose, after he has induced Billy to entertain him with stories, "you can let go." "But I don't want to," says Billy, "for Ireland is a long ways back, and sure I'll drop in the sea and be drowned-dead." "Oh!" says the goose, "as you fall, Billy, just *jump* a little bit to the left, and keep on jumping to the left, and maybe you'll strike Ireland." Let us not be geese and precipitate small Billies into reference rooms, trusting that they will be at home there, for without perfect co-operation on the part of both librarian and teacher, and mental gymnastic work on the part of Billy, he will sure "drop into the sea and be drowned-dead."

DISCUSSION

Mrs. Maltby.—In New York it is not required by the schools that classes shall visit the libraries as a part of their school work. In cases where visits have been made they have been the outgrowth of the principal's desire and the librarian's willingness, or the librarian's desire and the principal's willingness. At the Tompkins Square Branch of the New York Public Library we have tried a "method" which seems to bring satisfactory results to all concerned. Topics for study are assigned and outlines made by teachers. These outlines, with a note as to grade, number in class, and whether boys or girls, are sent to the librarian by the principal. If we find, after carefully considering our collection of books on the designated topics, that the subject-matter in books available is not suited to the intelligence of the class—is too difficult or insufficient—we confer with principal and teacher, reporting just what material we have and often by a modification of topic or subdivision thereof we arrive at a practical solution. The points considered most important in this selection of books are that we have books that are interesting to the children, well-written and authoritative. If masterpieces of literature bear on the topic, they are naturally used as foundation material.

The classes come with their teacher for an hour's study at eleven A.M. and at two P.M. Those hours are chosen as best from the school side for several reasons, especially because the children can be dismissed from the library, thus relieving the teacher of the responsibility of more than once taking them thru the streets. From the library point of view, they are chosen mainly because during the regular after-school rush we could not give the class the proper attention. Each class numbers from forty to fifty and frequently we have two at once, the limit to the number being fixed by the size of our room, the possible supply of good books, and the number of our staff. We prepare for one topic a week, but manage so that at least two and at most four classes shall use the material thus gathered. If two or four grades in one school are not ready for the topic, classes come from another school. The work is planned for the upper grades, mainly because the library cannot yet find time to serve all grades in all schools in its district.

The Children's Room at Tompkins Square is the fortunate possessor of a collection of dolls dressed in the characteristic costumes of fifteen different countries, and these make live many otherwise dull topics. Let us take Holland as the geographical topic to be studied. Before the class arrives we arrange the books as attractively as may

be on the tables at which the children will sit, opening the books to any particularly interesting or typical illustration. The Dutch dolls, a boy and a girl in peasant costume, of course with the sabots, are where they will pique curiosity. A costume, the holiday attire of a live girl, is also at hand, as well as Anita Leroy's pictures of Dutch fisher-folk. Each book has one place marked where desirable information may be found. This because we realize that given a school study-period we must show definite results. Very shortly after the class is settled at work, a child here and there shows plainly the need of help. That is the signal for the library assistants, who are already familiar with the books, to go to the child and show him how to solve the difficulty by using the index or table of contents. The assistant may begin by showing only one child but if she is the right kind of assistant, long before she ends she will have the interest and attention of all at the table. So no child escapes being told—to be sure, informally, but results show none the less effectively—how to use an index or, better yet, a book.

SOME RESULTS OF ELEMENTARY SCHOOL CLASS REFERENCE WORK IN PUBLIC LIBRARIES

Martha B. Bayles, assistant principal, Public School 15, New York, N.Y.—To appreciate fully the results of co-operation of the school and the library on the lower east side of New York City you must know the children. They are chiefly Jews, either foreign-born or of foreign parentage, familiar to all thru Myra Kelly's stories. In many cases little English is spoken at home and often we wish there were none, for the mistakes made are hard to overcome. If you say, "Izzy, why were you late?" you will probably hear, "I had what to eat," or "I was by my aunt's last night and stood up too late"; or when you inquire of a fourteen-year-old girl what she intends to do when she gets her employment certificate, she may reply that she is going to work "by collars and cuffs," or "by shirt-waists." But when you hear from a neighboring tenement, "Solly, Solly, come to dinner quick! Mother's on the table and Father's half eat!" you are almost in despair. But as the children are eager to learn, the "charm of the impossible" lures both teacher and pupils to high attainment. And one of the strongest factors in the work is the public library.

We are trying to carry out Dr. M Murry's ideas on *how to study*. Heretofore to the majority of students studying and memorizing have been synonymous terms, but in his new gospel of study, thinking is fundamental and power of initiative a necessary outcome. For instance, a pupil never goes to the library, under the teacher's guidance, without a *specific aim*. One of our readers contains an excerpt from *The Dog of Flanders*. What does happen to Petrasche? How can we find out? Why, get the whole story from the library. Accordingly one girl is appointed to get the book, from which she reads selected portions the next day. When "March Pranks" was the subject of composition, seven volumes of poetry were brought to school by boys of eleven and twelve, all eager to read about the windy month. You will not be surprised to find that the members of our "City History Club" indulge in such books as *The Spirit of '76*, *Life of Washington*, *American Patriotism*, and *How the United States Became a Nation*.

I remember once telling a class that they could have a masquerade as a geography review of Europe if they would find out what costumes should be worn by the different characters and what each should say. As there were no character dolls in those days, I suggested that they consult Carpenter's *Europe*. There was a raid on the library that afternoon, but alas! only one copy was to be had. However, twenty more were kindly borrowed by the librarian, my girls being the happy possessors of them all. No books were ever more diligently conned and soon every spare minute in school and out was spent in making caps and bodices, kilt skirts and plain ones. Sewing was a secondary result. Excitement ran high and all agreed they would never forget Europe. How well the library dovetails with the school in training toward specific aims!

Then *supplementing the text* as a second point in how to study. After has a subject been discussed it is often found that it needs further illumination which only the library can give. One class has been keeping a diary as if each were taking a trip abroad. Every book on the subject that they can get they have referred to, the result being very realistic notes. To quote:

April 3, 1910, Rome: Last night we arrived at Rome. We were so tired that we went straight to bed. This morning we could scarcely wait to eat our breakfast to see the glories of Rome. While we were eating, the paper was brought to us and it said that Colonel Roosevelt is here and that he arrived the same night as we did. The paper also stated that he is to give a reception to all the Americans in Rome. How glad we are that we are here. Soon after breakfast we started out to see the city. This is a wonderful old city, this Rome built on the Tiber on seven hills, etc., etc.

This child has a feeling for the things she is seeing in imagination, which many a tourist fails to get. How did she get it? The school plus the library.

As Mrs. Maltby has told you, once a term our upper classes go to the library while school is in session. This is especially advantageous, because it arouses the interest of the children who are not members. No work that we do is more thoughtfully planned. Each teacher selects her subject and sends an outline of it to the librarian to ascertain whether suitable books are available. Her choice depends upon the needs of her class, it often being a summary of work done in school, as a review of South America, its productions, people, commerce, etc., or the study of an artist and his pictures, as Millet and his masterpieces; but whatever it may be, success depends upon careful preparation beforehand and much conversation afterward, all of which is crystallized in composition,

A recent study of the peasants of Europe by means of the dolls at Tompkins Square Library has brought forth some very interesting results. The whole class went to the library for an hour one morning. While there, some wrote descriptions, while others roughly sketched the dolls, filling in with color afterward. A week later these girls had an impromptu dramatization, each girl wearing something significant of the character she represented, if only a Dutch cap or a black bodice, to suggest her nationality. To add to her dress, several articles such as a Spanish lace scarf, an Irish lace collar, and a Scotch plaid muffler were loaned to anyone who realized her need. Each in turn stood in the front of the room and told her story without mentioning the country to which she belonged. The others were to guess. One dark-haired child with large brown eyes, in a bright yellow skirt, a black bolero trimmed with yellow, which she had made herself, and a pale blue veil, draped artistically over her head, rather puzzled the children by the information she gave, so they questioned her. "Are the people of your country well educated? Mention some of your products." Then, not quite certain yet, "Did your king attend the funeral of King Edward? Is his name Alfonso?" Descriptions of the various peasants were then written by all. But perhaps the last bit of work was the most interesting. The Swedish girl being a favorite the pupils were taught that charming folk-dance, "Reap the Flax." They then told how they danced it. This one hour at the library not only supplemented the geography but was productive of three kinds of composition—dramatization, description, and exposition.

Notice the effect upon the English. After appreciative study of Sidney Lanier's "Song of the Chattahoochie" in a 6-B grade, the subject chosen for reference work at the library was the Rhine, its castles and legends, its great cities and charming villages, with all its teeming life from the mountains to the sea, for the purpose of writing "The Song of the Rhine." Keener appreciation of that river I have never seen. One boy wrote, "Out of the hills of Switzerland, down the valleys of Germany, I hurry out of my rising-place to reach the swampy lands of Holland." Another, "Oh! the odor of the grapes seems to stop me." And a third,

Once there lived a cruel man called Bishop Hatto, who when there was a great famine in the country did this—he sent out word that all the people who would come he would

give them some grain, so the next day the people came and assembled in his large barn, but not waiting to hear more I rush on to make up for lost time till I come to the flat lands where large boats full of vegetables and others full of beautiful flowers flow on my bosom and taking them into the ocean I leave them to get lost in the sea of water.

Besides supplementing the textbooks, the best of which are but fragmentary, from the books and pictures at the library the pupils have gained a lasting interest in the Rhine River. It is more than a crooked line on the map. More than that the impression made is so deep that expression is inevitable. When you remember that these children are foreigners, is not the English remarkable?

To show you that this art of studying may be still further developed by the hearty co-operation of a clever teacher with a sympathetic librarian, let me tell you what happened last year. At No. 15 we offered prizes for the best compositions on Lincoln. You may be sure the library was well patronized. A Russian girl, not more than twelve, having been in the country but two and a half years, read three biographies, Lang's, Church's, and Binn's, as well as *The Perfect Tribute* and *The Toy Shop*, and then wrote the following. (Note her organization of material and her assimilation of ideas, two more strong points in the art of study):

"In God we trust," was apparently Lincoln's motto. The following story will show how he put his trust in Almighty God and wished to be guided by Him.

The dark heavy curtains of the war seemed to be lifting, and peace and sunshine were descending upon the land. It was just after the final battle, when the North had achieved her great victory, that a friend of the President's asked, "What will you do if the South refuses to join the Union, after all the fighting, if she insists upon being a separate country?" "My dear friend," said Lincoln, "that reminds me of a story I heard when I was yet a young man. A clergyman, who was going into another town to perform funeral services, was informed that he had to cross the Fox River. 'It is very dangerous,' his devoted people warned him, 'and many are the people that have lost their lives there.' The clergyman replied cheerfully, 'My dear people, I am not near the Fox River, and when I shall come there I shall trust in God and He will show me a way to cross.' " And Lincoln added, "I shall say the same to you, my friend. As yet the South has not said that she does not wish to come back to the Union, and if she should say so, we would trust in God as the captain trusts the pilot, to show us the way out of the trouble."

It is night. The President and his wife are sitting before the curtain in a theater. He is evidently very much absorbed in the scene for he does not notice an unusual sound very near to where he is sitting. Very slowly and cautiously a figure glides out of a recess and moves serpent-like toward the President. A pistol report is heard thru the room. A man jumps from the theater to the stage, and all becomes confusion. "The President is shot! The President is shot!" is heard everywhere, followed by crying, sobbing, running, and screaming. But that will not bring the President back to life and consciousness again; he is dead! Shot by a villain's hand, but he died a noble death. He had crossed the Fox River with its turbulent waters, crossed from the land of darkness into the land of peace and eternity. So end our lives, hopes, and ambitions. This man who loved peace had war all the time, and just when the dark curtains were withdrawn, he too was snatched away.

How many of us would have thought of connecting the Fox River with the death of Lincoln. This ability to select the most valuable thought from the printed page is illustrated by the following: In writing about "Spring in the City," one pupil spoke of its "subtle charm." As the phrase had not been used in class, the teacher asked where she had gotten it. She replied that it had sort of dropped down when she was writing. Upon further inquiry it was found that she read many library books and always reread the parts she liked best. Is here any doubt that this little girl is learning to discriminate between gold and dross?

While illustrating this point still further, let me call your attention to the fact that the library work benefits the teacher as well as the pupil. Our seventh-year classes were asked to write a description of the dawn. One good, but matter-of-fact instructor, acknowledging that she had never seen the sunrise, naturally thought the topic quite beyond the pupils of the east side, and that "Pushcarts" would be a far more appropriate subject.

However, wishing to do her best, she recommended early rising and visits to the library. Then she herself spent several hours at the Tompkins Square Branch looking up references. Such study of Guido Reni's "Aurora" and the beautiful myth which inspired the artist! Such culling from Tennyson, Dryden, Keats, and Browning! And no one was more surprised at the result than the teacher herself. One girl wrote,

Have you ever seen dawn? If not, very early in the morning open your window toward the Orient and the dawn will rise from its ocean bed and peep in. [Notice her last paragraph.] Dawn is far more beautiful than sunset. After sunset has gone we have left behind us the dark night. But dawn to many means the turning over of a fresh leaf of the book of life. For those who had sorrow the day before, the dawn brings gladness. For those that were joyful their joy is reborn with the dawn.

O Promise new!
O joy reborn!

as the poet said. May I quote from one more?

THE DAWN

Another day is winging
Out from the nest of night,

A soft light breeze wafts the mists of the night over the mountains, then sighing goes away.

Aurora, the beautiful goddess of dawn, peeps out and the clouds blush a rosy red when she smiles on them. Then Aurora picks the most beautiful flowers and makes them into wreaths, and she calls her maidens and she, leading the way, throws open the golden gates of Apollo, the sun-god's palace in the far east, and followed by them she scatters broadcast with a bountiful hand the fragrant blossoms on the path along which the sun-chariot travels when it first starts on its long journey. The rosy-hued maiden trips along, leaving a trailing path of exhaling perfume.

Then comes Apollo in his stately chariot. As he passes through the gates, the clouds, eager to do him homage, array themselves, some in rosy pink, some in soft pale gold, some in pure white, while others in blue, pale blue—heaven's own blue. The birds then awake and welcome him with their matin songs which they trill forth into the early morning stillness. The little brook sparkles when the great wheel of the chariot begins to roll, and sends up a gurgle of thanks to the sun. Then comes the wind sighing through the trees and he seems to say in a low soft voice:

Dawn is here,
Morn is coming!

The author of this description lives in a dirty little meat shop and her parents speak very broken English. Truly the spiritual is growing up thru the common. History, geography, composition—dull, uninteresting? Not a bit of it! The library has joined hands with the school and thus has made its benign influence felt among the lowest.

Even the mental defectives have come under the spell. A girl of this type finding a new picture on the wall as she entered the classroom one morning, exclaimed, "O, Miss M———, I saw that picture in the library! Only this is more beautiful. It is bigger." And a boy of fourteen who was making vain attempts to master the primer used to bring volumes of philosophy, history, and psychology to school insisting that his teacher read aloud from each.

One child in answer to "What did you enjoy most?" in the hour spent by the class at the library and "Why?" replied, "A beautiful picture of the people of Argentina because I thought I was there now." Another liked the hospitality shown them. To quote, "They told us everything we wanted to know and they gave us all the books they could think of."

Miss McCloskey, of Newark, tells of a serious mite of six who asked for a library card. "Why do you want it?" inquired the librarian. "I want a book," was the laconic answer. "Well, what book?" "*The Ugly Duckling*. I want to see if it is like the one I read in school." The library is simply another and delightful school where our little folks find in new form the fascinating tales they have learned to love in the classroom.

To teach children how to study, to make dry, juiceless facts alive with interest, so to nourish the mind with the best our wonderful language affords that beautiful English

full of poetic ideas is the inevitable outcome—these are great results; but to create a love for the library, not for its books alone, but for its pictures and its wholesome and refining atmosphere—this is indeed worth while, and it can be done efficiently only when the school co-operates heartily with the library.

THE SCHOOL AND THE LIBRARY[1]

CHARLES H. JUDD, HEAD OF DEPARTMENT OF EDUCATION, THE UNIVERSITY OF CHICAGO, CHICAGO, ILL.

It gives me great pleasure to appear before this gathering as the representative of the National Education Association. I do not know what qualifications are ordinarily sought in such a representative, but I judge that two are at least permitted. First, one must be unable to attend the meetings of the National Education Association itself, because it is so far away; and second, one must be supplied with a liberal lack of knowledge of library science. Whatever the qualifications of the representative it is an easy task to say to the Library Association that there is a close bond of connection and sympathy between the two associations. We who teach cannot do the work of the schools without recognizing our dependence on the work that is being done in the community by the library; and I venture to assume that you feel the reciprocal relations yourselves and recognize the importance of a good school in a city where you conduct a good library.

If I make an effort to comment in any wise upon library matters I shall have to confine myself to those aspects of library work which have to do directly with school organization. I am not competent to speak on your larger problems of the library and the community. But certain it is that we are developing within the schools themselves more work of the type in which you are interested.

There are two general lines of discussion and interest which it seems to me proper for one who is interested primarily in the school to present to those of you who are interested primarily in libraries. First, let me say that we are coming to see that the study period in the school is more and more the place where the kind of work that you do in the libraries can very properly be introduced and enlarged. All of you know from your own personal experiences as students if not from your experiences as teachers—and I am sure many of you have had this latter form of experience—that the period when students are supposed to study has heretofore been a period when they have been separated from everything except a single textbook or possibly the small supply of books that they could have in their desks, and then they have been called upon to be extremely quiet while they studied. They have been called upon to obey the directions of someone in charge of the study room and the function of that person in charge of the study room has been a rather trying function; it has been the function of keeping

[1] Address before the American Library Association, July 2, 1910, at Mackinac Island, Mich., as official representative of the Library Department of the National Education Association.

order in the room, not the function of contributing in any lively way to the actual educational progress of the school. The study-room period has been a time when the teacher has been allowed to catch up with her reports or to catch up with some needed work and perhaps at times to catch up with her personal correspondence. At all events, it has been an occasion when the intellectual contact between the school and the children has been somewhat curtailed and the school is not supposed to be wholly responsible for anything except order. It has been a partial substitute for home study, the assumption being that the home study would not be done so vigorously because nobody at home would be delegated to watch with equal care over the reluctant studier. Today we are modifying all this and many of us are interested in seeing it further modified. I am sure that it is appropriate for me to enlist if I can the sympathies of this association for the modification of that sort of a study hour in the schools. I think the ideal study hour is a study hour in a room filled with books exactly as any reference library is filled with books. I think the kind of order which should prevail in that room is the kind of order that prevails in any well-organized library; the student should have the opportunity to leave his individual desk and refer to the books which give him enlarged information; he ought indeed to be encouraged to leave his own desk with its meager supply of books and he ought to go from shelf to shelf within any limits of reasonable attack upon the subject in hand. It seems to me there is the finest kind of an opportunity for training of a type of study that is not common in the individual recitation room. As a matter of fact we are doing more and more of this sort of thing in the individual recitation room; we are asking children to bring into the elementary schools and we are asking the older students to bring into their high-school classes reports of what they have looked up in the libraries, and we are encouraging them to go in a larger way to the shelves; but if we could give them definite training in how to do this, if we could have the teacher who goes about the study room engaged not merely in keeping order but in helping the students to refer to books, giving them a kind of training which we all of us recommend as important, giving them a kind of training for which heretofore no individual officer of the school has been set apart,—I say if we could make these study periods genuine periods of training in the use of books, in the use of a library, it seems to me we should add, without encumbering the course of study, a very important line of training. We should thus reduce watching and keeping order to their proper place of minor importance and elevate to its proper place of major importance the function of using many books. In other words, we should carry over, if you please, a portion of your domain into our domain. We should not only have the schools made the depositories for the books from the public library, but we should have the study period itself transformed into a period of library study or training in library methods.

If this transformation of the study period seems as important to you as it does to me, let me urge upon you the responsibility for contributing to this movement. We cannot work this out merely from the side of the schools; we must have the co-operation of the technical librarian who comes into the school with an idea that is perhaps specialized, perhaps different from the ideas of the ordinary teacher who is acquainted with the ordinary study period. We must have the contribution, from the side of the librarian, of enthusiasm for this kind of work. We have such a study room as this in one of the schools with which I am connected. It was suggested by our librarian and is being worked out with her co-operation, and we regard it as one of our most progressive lines of organization.

Perhaps you cannot bring about the change suddenly, but you could easily begin to introduce it on a small scale, especially if you are situated near the schools or if you have branches in any of the schools. You might very properly encourage the school authorities themselves to delegate to you the authority to conduct one of these study periods. I know you are busy like the rest of us, and just as soon as I make the proposition that you take over this new task I have no doubt that my suggestion will be received with enthusiasm by school authorities and with corresponding reserve by librarians. My function, however, is to represent the school authorities. I see, therefore, very clearly how you might make a beginning in some such fashion as this: you might make the proposition that you would take care each day of ten such students for one or two periods. Ten students, you know, are very simple to handle. Students get difficult to handle only when there are fifty of them together and then the accumulated momentum of fifty devices for making a disturbance is so great that you have a disciplinary problem; but the accumulated momentum of ten devices for making a disturbance is relatively very small and any able-bodied librarian, with sufficient self-assurance, can put a check to those ten devices without great difficulty. I should say that it might be well for you to get the school authorities to arrange the program. You can make your period with them very attractive to the children. Suppose you get the school authorities to make the program on a given afternoon that the children should be deliberately let out of a certain school to the number of ten and be allowed to go to the library. Of course children go to the libraries now, but let us arrange this as a deliberate substitute for the old-fashioned study period and let us make this new study period an opportunity for training in the methods of the use of books. If we do this I feel sure we shall bring together our two institutions in a very productive fashion.

There is another line of interest which I am here to suggest to you. We cannot co-operate intelligently unless we recognize some differentiation of our functions. I do not think it is at all fair to say that the school and the library are doing the same thing. We differ in the first place in the fact that you reach a very much larger community than we can reach in

any given year; you reach an older and maturer reading constituency and thereby your function is differentiated from ours in the school. There is another way in which your function differs from ours. Perhaps you have thought this out more clearly than I, perhaps I am bringing coals to Newcastle in suggesting it—but it has always impressed me that you have the advantage of us who teach in the schools in the fact that you use books as wholes and we use books in very small sections. Have you ever been impressed with the fact that when a book is used by a class in a school it takes a year or half a year to read it, and students get notions about the difficulty of going thru a book which are altogether distorted? They get the idea that a book must be read in small doses; that when you have finished up one reading you should set that particular reading entirely aside, put it out of your mind as soon as possible so as not to be impeded by any memory which you many have accumulated out of that small section as you pass on to the next. If we have bad habits of this kind in the schools you who work in libraries see the opposite vice. You see people who come in and read a book in fifteen or twenty minutes. Furthermore, you have people among your readers who are mature enough and well trained enough to make rapid reading of a book a virtue. They know how to select. They read the book at the important point and then decide whether they should read the other parts of the book. The art of rapid use of books is one of the arts which we have been learning in the schools very gradually. We are just beginning to see that children can be taught to deal with books as wholes, that they can take up books, not those that we use merely as textbooks, not those that are marked off by heavy headlines so as to impede progress, but all books containing relevant matter. Children should learn that some books are made for rapid use. Many books ought to be looked over and a large part of the contents, for the moment at any rate, neglected or even discarded. That is, the use of a book as a whole for the purpose of extracting from it some information or for the purpose of getting a broad general view is just as legitimate as the dull grinding over a textbook. We can change the attitude of the next generation toward books, provided we can have some help, and the help which we ought to have, you are in a position to give us. If you would help these students when they come to you to pick out those portions of a book which are of advantage and if you would make it your business, or if you would encourage the teachers in the schools with which you are connected to make it the business of those schools in co-operation with you, to help children to learn the methods of using whole books and extracting the valuable part from books, then we should have a very large addition to our pedagogical machinery. You know what I mean. You ought to have special card catalogs, it seems to me, prepared by teachers and by yourselves which will refer in detail to a number of different books citing chapter and verse, helping out a faulty index, or supplementing a good table of contents.

Again, I realize that I am unloading on the Library Association a duty, which if your representative were speaking this morning before the National Education Association, he would be unloading on the teacher. Such preaching of new duties is, however, the privilege of a prophet who is far away from his home constituency and in the presence of others who have nothing to do but spend their time on beautiful islands holding conventions. To charge you with any remissness in your duties is certainly not my function this morning, but think of the great catalogs that might have been made up this morning if this whole body had set itself about the business of telling where all of the information could be had about certain phases of fifth-grade geography or history! The trouble with the children when we turn them loose in a general library is that they have not the machinery for the use of that library; and then—frankly apologizing for that great body which I represent and which is absent today—many of us who teach have not the machinery inside of ourselves, if we wanted to give it to the children. A library is very formidable to a newcomer. Even the material equipment impedes one's progress. I have long wished for an opportunity to tell the makers of card catalogs that they ought to invent an automatic device for turning cards, expecially where there are one hundred and fifty on the same subject. Your spiritual equipment I have never doubted, but your material equipment is very difficult to handle and it gets more and more difficult when you offer it to a child in the grades. When you see somebody who is just four feet high confronting a bureau of information that is six feet high, with the top drawers of A's just out of reach, you can realize how that saps the enthusiasm for the use of a library as a source of material related to fourth-grade geography. What we need is material worked over in such a way that pupils will be encouraged from the beginning to realize that the book which is given to them in the classroom is nothing more nor less than a sample and very frequently a meager sample, a sample that raises a great many questions and answers very few. He ought to learn that if the questions thus raised are to be answered they must be answered in the larger book shelves accessible in the libraries. Our duty, and if I may venture to preach, your duty, is to make that path, especially for the early students, very much smoother than it is at the present moment. For my own part I am not at all persuaded that the path hasn't got to be worked out in very much greater detail even for older students. Parents come to us in our schools very frequently asking for lists of books that should be read, lists of books that shall be specifically appropriate to the needs of the boy and the girl in the sixth, seventh, and the eighth grade. This kind of specific preparation of a library to introduce the student to whole books without throwing the whole library at him; to give him the machinery by which he shall be able to extract certain portions of your shelved wisdom; to encourage him little by little to expand upon the way in which we use the books in the school—that is someone's general problem.

I think we who teach have made the mistake, which I confess very frankly, of tying ourselves down too closely to the single book. We are breaking away from that somewhat. We are trying to get children to use books as wholes, and if you would come at it from your end of the problem, where you deal with the library as a whole, and if you will begin to narrow somewhat the total view, we shall meet each other half way. We shall get our pupils to raise a certain number of questions and then shall push them out into the library to get their questions answered. Thus we shall develop the only kind of co-operation which is at all worth cultivation—that co-operation which permits of the differentiation of function. I do not believe libraries are going to swallow up the schools, at least for some time, nor will the schools swallow up the growing institutions which you represent. The school is very hospitable to the movement of introducing into the schools branch libraries; indeed, the school is eager for all possible reciprocity between our two great educational institutions. You reach a larger constituency than we do; you reach your constituency in a somewhat different way. We are trying to prepare the future constituency for the use of these storehouses of knowledge and art of which you are the custodians. If you will give us a little help in working out some of the methods, of which I think we are relatively ignorant; if you will help the students whom we send to you, then we shall be forgiven for meeting apart each year and merely sending representatives back and forth.

The collection which your executive officers have helped to prepare for the National Education Association is, I am sure, highly appreciated by those who are at the other meeting in Boston, and I have the message from the executive officers of the National Education Association extending to you their very hearty and cordial greetings and their hope for future co-operation of the type which has been possible in the past. Long may there be the warmest sympathy between our two great branches of the public educational system.

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Vice-President—F. C. Bruner, Child Study Department, Public Schools.....Chicago, Ill.
Secretary—Miss Ella C. Jordan, asst. prin., Horace Mann School....Newton Lower Falls, Mass.

FIRST SESSION—Wednesday Forenoon, July 6, 1910

The meeting was called to order at 9:30 A.M. in the First Baptist Church by the president, Edward M. Van Cleve, superintendent, Ohio State School for the Blind, Columbus, Ohio. Prayer was offered by the Rev. Mr. Starr.

Edmund A. Jones, former school commissioner of the State of Ohio, Columbus, Ohio, gave an address upon "The State's Obligation to Provide Educational Opportunities for All Children, Normal or Otherwise."

Then followed a series of papers upon the special topic: "Provisions for Education of Non-Normal Children—Their Efficiency and Cost."

The first paper was by Miss Mabel Ellery Adams, Horace Mann School for the Deaf, Boston, Mass., (*a*) "The Deaf Schools, Day and Institutional."

The second, (*b*) "The Blind in Schools with the Seeing," by Frank G. Bruner, Child Study Department, Board of Education, Chicago, Ill.

The third, (*c*) "Institutional Care and Training of the Blind," by John E. Ray, superintendent, North Carolina School for the Blind, Raleigh, N.C.

Miss Elizabeth E. Farrell, inspector of ungraded classes, New York City, N.Y., spoke on "Schools for Backward Children."

Discussions limited to five minutes followed the reading of these papers. Persons taking part in these discussions were Rev. E. Clayton Wyand, Boston, Mass.; Harris Taylor, superintendent of the Institution for the Improved Instruction of Deaf-Mutes, New York City, N.Y.; Miss Johnson, New York Public School Association; Miss Elizabeth E. Farrell, supervisor of ungraded classes, New York City, N.Y.; Frank G. Bruner, Child Study Department, Board of Education, Chicago, Ill.; Edward M. Van Cleve, superintendent of State School for the Blind, Columbus, Ohio; Maximilian P. E. Groszmann, Plainfield, N.J; Miss Emilie Poulsson, Boston, Mass.

Edward E. Allen extended a cordial invitation to all interested in the work for the blind to visit the Perkins Institution, also the Kindergarten for the Blind.

The president announced the following Committee on Nominations:

Edward E. Allen, Director, Perkins Institution, Boston, Mass.
Maximilian P. E. Groszmann, Plainfield, N.J.
Miss Sarah Fuller, principal, Horace Mann School for the Deaf, Boston, Mass.

A commitee, consisting of M. P. E. Groszmann, Plainfield, N.J.; Elizabeth E. Farrell, supervisor of ungraded classes, New York City, N.Y.; Harris Taylor, superintendent of the Institution for the Improved Instruction of Deaf-Mutes, New York City, N.Y., was appointed to frame a resolution which would recommend the extension of existing compulsory-education laws.

The meeting adjourned to Friday, July 8.

SECOND SESSION—FRIDAY FORENOON, JULY 8, 1910

The meeting was called to order at 9:30 A.M. in the First Baptist Church by the president, Edward M. Van Cleve.

Mr. Groszmann, in behalf of the committee, presented the following resolutions:

BOSTON, July 8, 1910

To the Department of Special Education:

Your committee appointed to frame a resolution which would recommend the extension of existing compulsory-education laws, respectfully submits the following: Be it

Resolved, That it is the sense of this meeting of the Department of Special Education of the National Education Association, that the compulsory-education laws of states and communities should be so amended, developed, and extended by suitable legislation that,

First, they embrace *all* children of school age, and provide for their training.

Second, they recognize the difference between the chronological age of a child and its maturity and that the school-age limit of each individual child be determined by maturity tests only, no matter whether the child is, in years, above or below the age standard; in other words, that a child's actual age be determined by physio-psychological data corresponding to the normal standard for the age limit required by law.

Third, all children or persons failing to meet such a maturity test shall be permanently under public supervision and control.

It is further recommended by your committee that an elucidation of the principles set forth in these resolutions be placed on the program of next year's meeting.

MAXIMILIAN P. E. GROSZMANN, *Chairman*
ELIZABETH E. FARRELL
HARRIS TAYLOR

John E. Ray, superintendent, North Carolina School for the Blind, Raleigh, N.C., moved the acceptance and adoption of these resolutions; seconded and carried.

Dr. F. Park Lewis, chairman, Committee on Ophthalmia Neonatorum, American Medical Association, Buffalo, N.Y., read a paper upon "Conservation of Vision and the Prevention of Blindness."

M. P. E. Groszmann moved that a committee be appointed to make psychologic investigation with regard to the subject of eye strain and the standardization of the school room lighting, school book paper, type, etc., to co-operate with a committee of the American Medical Association already prosecuting inquiries of this nature, with the Russell Sage Foundation, and persons having a knowledge of the blind. This motion was adopted and the president appointed the following committee of five:

Dr. F. Park Lewis, *chairman*, Buffalo, New York.
J. A. Shawan, Superintendent of Schools, Columbus, Ohio.
Edward N. Bristol, New York City.
William H. Burnham, Clark University, Worcester, Mass.
E. Leavenwarth Elliott, New York City.

Charles A. A. J. Miller, assistant superintendent Public Schools, Baltimore, Md., presented the paper, "What Kind of Qualifications and Training Should the Teacher of the Special Class Have?" A discussion of the paper was led by Miss Alice Morrison Nash, principal of School Department, New Jersey Training School for Feeble-Minded Girls and Boys, Vineland, N.J.

This was followed by a paper by Harris Taylor, superintendent of the Institution for the Improved Instruction of Deaf-Mutes, New York City, N.Y., on "Oralism in Oral Schools." Mrs. Sarah Jordan Monro, Horace Mann School for the Deaf, Boston, Mass., opened the discussion, which was continued by the following-named persons: Rev. E. Clayton Wyand, Boston, Mass.; Harris Taylor, superintendent of the Institution for the Improved Instruction of Deaf-Mutes, New York City, N.Y.; Frank G. Bruner, Child Study Department, Board of Education, Chicago, Ill.; Edward Allen Fay, professor, Gallaudet College, Washington, D.C.; Miss Sarah Fuller, principal, Horace Mann School for the Deaf, Boston, Mass.

The Committee on Nominations reported as follows:

For *President*—Frank G. Bruner, Child Study Department, Public Schools, Chicago, Ill.

For *Vice-President*—Elizabeth E. Farrell, inspector of ungraded classes, New York City, N.Y.

For *Secretary*—Edward Allen Fay, Gallaudet College, Washington, D.C.

On motion the report was adopted and the nominees declared elected.

The department then adjourned.

ELLA C. JORDAN, *Secretary*

PAPERS AND DISCUSSIONS

THE STATE'S OBLIGATION TO PROVIDE EDUCATIONAL OPPORTUNITIES FOR ALL CHILDREN, NORMAL OR OTHERWISE

EDMUND A. JONES, FORMER SCHOOL COMMISSIONER OF THE STATE OF OHIO
COLUMBUS, OHIO

It is a matter of great regret to you all, I am sure, that Superintendent Dyer, of Cincinnati, who was to have given the opening address, and who, I know, had a special message for this department, was compelled to return to Ohio on account of the sudden death of a member of his family.

When your president asked me to fill the gap I assured him I did not wish to come before a department of the National Education Association without a carefully prepared paper. At his urgent request, however, I finally consented to give an informal talk upon the subject before you at this time, which perhaps may open the way for the specially prepared papers which are to follow.

The general topic for this session is "The State's Obligation to Provide Educational Opportunities for All Children, Normal or Otherwise." The permanence of a despotic government like Russia depends upon the ignorance of its subjects, but the very life of a Republic that is "of the people, by the people, and for the people," depends upon the intelligence and character of its citizenship. What happens in our country every November? On a certain day every voter is expected to enter the booth and there, alone, he is called upon to register his choice for the highest officers in the state and nation; and, not only so, but he is frequently required to record his judgment upon questions of vital importance to the community. When this is the case it is manifestly the duty of the state to make the amplest possible provision for the education of all its youth.

I remember a selection in one of our old readers beginning "We must educate! We must educate! or short will be our race from the cradle to the grave." Our fathers understood this and no sooner had the Pilgrims at Plymouth and the Puritans at Boston provided shelter for themselves than they built the meeting-house and in close proximity erected the school-house. Massachusetts at a very early period made provision for both the

common-school and higher education. While she as a state has always been limited in natural resources, yet there is no state that has had a greater influence in the councils of the nation or made larger contributions to the great wealth of American literature. Longfellow, Whittier, Lowell, Holmes, Hawthorne, Emerson, and Edwards were all of them Massachusetts men. Whittier has truly said in speaking of Massachusetts:

> Well she keeps her ancient stock,
> The stubborn strength of Plymouth Rock,
> And still maintains with milder laws,
> And clearer light, the good old cause.
>
> Nor heeds the skeptic puny hands
> While near the school, the church spire stands;
> Nor fears the blinded bigot's rule
> While near the church spire stands the school.

This same truth found expression in the famous ordinance of 1787, in the words—

> Religion, morality and knowledge being necessary to good government and the happiness of mankind, schools and the means of education shall be forever encouraged.

So important has this matter become that most of our states have enacted laws with reference to compulsory attendance requiring all children between the ages of eight and fourteen years to attend school; and up to sixteen years, unless the work of the fifth year has been completed, and even then unless regularly employed.

Dr. Roosevelt in a recent address said, speaking of the materialistic tendency of the present age, "If the homely commonplace virtues die out, then the nation has lost what no material prosperity will offset."

There is much of truth in this statement, and the old-fashioned virtues of honesty, integrity, truthfulness, purity of speech and life, industry, perseverance, and thrift, so essential to the welfare of the nation, are largely implanted in the minds of our youth thru the public schools supported by the state.

Sometimes we get a better and more lasting impression of a picture by looking at it from different points of view; so we may get a clearer understanding of the value of education to a state if we consider what would happen if ignorance, vice, and crime had full sway.

I have recently re-read the story of "The Jukes" family as retold by Dr. A. E. Winship and contrasted with the Jonathan Edwards family. The word "jukes" means "to roost", and refers to the habit of fowls that prefer to roost in the trees rather than to occupy the comfortable places provided for them. "The Jukes" is a name given to a large family of degenerates. It is not the real name of any one family, but a general term applied to forty-two different names borne by those in whose veins flowed the blood of one man. This man's name was styled Max. He was born about 1720 and in 1730 built his shanty on the border of a beautiful

lake in New York State. He would not attend school as a boy, because he did not like to study and there was no authority in the home compelling him to go, and at that time there was no law in reference to compulsory attendance. He would not work because he did not like work, but preferred to loaf around the village with his companions indulging in coarse jokes and vulgar conversation. He preferred idleness to industry, ignorance to knowledge, and savagery to civilization. He gathered about him kindred spirits and his dwelling-place became a cradle of ignorance, vice, and crime.

In 1874 Mr. Richard L. Dugdale was employed by the New York Prison Commission to visit the prisons of the state, inspect them carefully, and report their condition with such recommendations as he might choose to make. While engaged in this work he was surprised to find criminals in six different prisons whose relatives were mostly criminals or paupers, and was more surprised to discover that these six criminals under four different names were all descended from the same family. This fact led Mr. Dugdale to study their relatives, living and dead. He examined court and prison records, reports of town poor-houses and obtained the testimony of old neighbors and employers. In this way he learned the details of five hundred and forty descendants of Max in five generations. He also obtained the facts about one hundred and sixty-nine who married into the family. He continued his investigation until he had included twelve hundred persons of the family of "The Jukes." As Dr. Winship puts it, the almost universal traits of the family in all these generations were idleness, ignorance, and vulgarity and these characteristics led to disease and disgrace, pauperism and crime.

Summarizing the results obtained by Mr. Dugdale it was found that three hundred and ten of the twelve hundred were professional paupers. These were in poorhouses or its equivalent for twenty-three hundred years. Three hundred, or one in four, died in infancy from lack of proper care and suitable surroundings. There were fifty women who lived lives of notorious debauchery. Four hundred men and women were physically wrecked early in life by their own wickedness. There were seven murderers. Sixty were habitual thieves, who spent on the average of twelve years each in lawless depredation. There were one hundred and thirty criminals who were convicted more or less often of crime.

This is a sad picture of the results of ignorance and the lack of proper training during the period of childhood and youth.

This notorious family thru all these generations made no contributions for the prosperity and well-being of the state, but on the other hand, according to Dr. Dugdale's estimate, it cost the state of New York $1,250,000—an average of more than one thousand dollars apiece, including men, women, and children, for pauperism and crime.

This illustrates in a striking way the fact that it pays the state from an

economical point of view to provide educational opportunities for all its children, normal and otherwise. We often hear it said that all men were born equal and have an inalienable right to life, liberty, and the pursuit of happiness. While this is true in reference to the common rights of man, in another sense it is not true that all men are born equal. I do not know the exact percentage, but a large number of our youth are born into this world deficient in some of the natural powers; some are blind, others deaf, and some are weak and feeble-minded. These are handicapped from the very beginning and have an unequal strife with their fellows. The state is under special obligation to provide suitable and adequate training for these defective classes. They need teachers especially trained for the purpose under expert supervision. Justice to the normal children demands that these be placed in special schools or special classes in the public schools.

Many of our states have made special provision for these defective classes. Ohio has a most excellent school for the blind, under the skillful and successful direction of the president of this department. Ohio has also fine schools for the deaf and the feeble-minded under the direction of expert superintendents with teachers specially trained and with large experience in their particular line of work.

These schools were formerly called asylums for the deaf and for the blind. We now very properly speak of them as *schools* for the deaf, blind, and defective classes. I am glad the time has come when we recognize the fact that they are simply a part of our public-school system. We have now in Ohio a law which permits a board of education to establish a school for the deaf when there are three or more deaf pupils that are three years of age or more. It provides that deaf pupils of other districts in the county may be sent to said school and authorizes the payment by the county of one hundred and fifty dollars per year to the board of education maintaining such school, for each pupil instructed in it. If no provision is made for a school for the deaf in the county, deaf pupils may be sent to a school in another county, and the one hundred and fifty dollars may be paid to the board of education maintaining such a school. The law interprets deafness to mean when pupils are so defective in the matter of hearing that they cannot be advantageously taught in the public school. The law specifies that the teacher of such a school shall have had normal training and shall have had a year's experience in the schools for the deaf.

Boards of education establishing such schools are obliged to report to the state commissioner of common schools and he is required to inspect them twice a year. In this way the state is enabled to maintain oversight over them. So far as I know, such schools where they have been established have been successful and satisfactory. They give to the children attending them the advantages of home influence and the opportunity of receiving instruction at the earliest possible age.

Whatever difference of opinion we may have in reference to the neces-

sity of industrial training, continuation schools, and trade schools in connection with our public-school system, there can be no question but that it is the duty of the state to give special prominence to certain lines of industrial training in our schools for defective classes. Many avenues of work that are open to the normal child are closed to the deaf and blind. It is incumbent upon the state to emphasize such forms of industrial training as will give those who are deficient in sight and hearing, but exceedingly bright in other ways, the best possible chance in professional and industrial life. It should be the aim of the state to give such special training that when these pupils take up the work of life they will be able not only to become independent and self-supporting, but they will have the satisfaction of contributing something to the common good.

I believe also that the state can do much in the way of preventing blindness and some of the other defects that constitute the difference between the normal and the abnormal child. This it can do by a wise and careful medical inspection of our common schools, by patient and thoro investigation, and by the publication and wide circulation of valuable information in reference to the cause of these troubles.

In closing let me say that I am in hearty sympathy with you in your special field of work. Much has been accomplished in the last decade. May your plans for the future be more than realized. I trust that this Boston meeting will help in the solution of some of the problems that are now confronting you.

PROVISIONS FOR EDUCATION OF NON-NORMAL CHILDREN—THEIR EFFICIENCY AND COST

THE DEAF SCHOOLS, DAY AND INSTITUTIONAL

MABEL ELLERY ADAMS, INSTRUCTOR IN THE HORACE MANN SCHOOL, BOSTON, MASSACHUSETTS

With the approval of my department president I have narrowed my field of discussion, restricting it to day schools and institutions which I have myself visited recently in ten states, but as this territory contains 50 per cent. of the population of the United States, conditions therein may be considered fairly typical of all thickly settled districts.

The matter of cost presents itself in two relations: the comparative cost of educating the deaf and the hearing, and of educating the deaf in day-schools, and in boarding institutions.

Upon the first comparison we have scant time to linger. It must be freely admitted that the education of the deaf is necessarily more expensive than the education of the hearing: the classes should be only one-fifth as large; the salaries of teachers tend to be higher; and the proportionate cost of maintenance of plant is always larger in small schools. Examples

of this difference in two states may serve as types. In Massachusetts, which has one large day-school and sends pupils to several endowed institutions, the per-capita cost is $191.76 in the day school, and ranges from $243.77 to $400 in the institutions; while the cost of educating normal children thruout the state is about $31.50. In a typical north central state, where all the deaf are educated in an institution, the per-capita cost is $247.55 for the deaf, and from $25 to $31.59 for normal children thruout the state.

The second comparison—between day schools and institutions—is already partly indicated. It is obvious that a boarding-school must cost more than a day school, since in addition to all educational expenses, which theoretically might be identical, the boarding-school must furnish board, service, and supervision for out-of-school hours. The first cost of plant, too, is greater for the institution, owing to the greater complexity of needs in an establishment where pupils are to live as well as to learn.

This higher cost of education in institutions is of course necessary wherever a scattered population renders day schools impracticable; but "impracticable" is a word which has changed its connotation many times in the education of the deaf, and recent improved traveling facilities have narrowed the territory from which the institutions must draw, while they have correspondingly broadened that of the day schools, showing conclusively the feasibility of free transportation of deaf children considerable distances daily, for their schooling, while their parents continue to support them in the ordinary way. As the cost of transportation usually does not approach the cost of maintenance in an institution, the future is likely to show a lively demand for day schools from thrifty taxpayers unless the institutions can give convincing proof of their superior efficiency; and it is this question of the present relative efficiency of institutions and day schools which is my main theme today.

Taken as a whole, when considered from the point of view of one accustomed to much visiting of public schools for normal pupils, both kinds of schools seemed to be doing highly efficient work on the academic side; but—with two exceptions—I found no monopoly of good or bad in day schools or in institutions, or under oral or combined methods—no marked pre-eminence of excellence, or depth of educational degradation, which could fairly be attributed to institution or day school life, to "combined" or oral method. The two exceptions were these: first, the standard of attainment, grade for grade, was much higher in two oral institutions than it was anywhere else; and second, the lip-reading and the voluntary use of speech in the day schools were unmistakably better than in the combined institutions. This characteristic of the day schools was particularly marked in the case of semi-mutes—pupils possessing normal language but no hearing: in the day schools I found many such pupils able to carry on an extended conversation with a stranger and to do public-school grade

work thru lip-reading, but in the combined institutions their lip-reading was often inferior to that of the congenitally deaf, and they would speak only when urged.

Aside from these exceptions, however, I could see no startling differences: there were some badly graded day classes struggling along under adverse circumstances and making small progress; but there were just as badly graded classes, making every whit as little progress in institutions. I found a few brilliant pupils with an extraordinary use of language; and large numbers of "medium-bright" ones, plodding along the well-worn weary paths, in both kinds of schools; but the most careful comparison of their written work failed to bring out any remarkable difference in their mental achievements which might be attributed to their different kind of life or the method employed. To be sure, in regions where relations are still a little strained, I heard a different story: day school and institution alike asserted the other's "output" to show a lamentable waste of years. Yet in those very day schools and institutions I saw the average child doing exceedingly creditable work along orthodox lines, with not much to choose, except in the matter of lip-reading and voluntary speech, as already mentioned.

Of course, the foregoing is not a comparison between the results of the oral and the "combined" method; because the better half, or two-thirds, of the pupils in most "combined" institutions are taught by the oral method, at least in their early years, with a strictness that out-orals the oralists in the purity of its oralism, while the poorer portion, on the other hand, is taught by manual methods, with little or no admixture of oralism. It is obvious that the only chance for comparison of methods is between these manually taught pupils and a like proportion of the poorer pupils in the oral schools. This comparison I tried to make, a good deal handicapped, naturally, by ignorance of signs and spelling. "Combined" teachers had assured me that results under manual methods were immeasurably better, that slow pupils, unhampered by the difficulties of articulation and lip-reading, could make vastly better progress than those so trammeled; and I honestly expected to prove the truth of these assurances. I had always believed that signs and the manual alphabet would be of great help with slow children, and I looked to find in those manual classes the realization of my dream—but I didn't! They failed to make good! Those just below average were doing about as well as the same kind of orally-taught pupils, minus the lip-reading and speech, and the very poor ones were showing just as meager, discouraging, disheartening results as were their mental equals in the day schools. In both places, too, I saw the actually feeble-minded, who have no rightful place among the "normal" deaf, and can be nothing but an injury and a menace to them.

As for the standard of academic attainment, the day schools confine themselves to the elementary curriculum of their locality; the course

of study is usually somewhat higher in the institutions, sometimes decidedly higher; but, on the other hand, the day schools tend to send more graduates to secondary schools for further education.

But while the course of study is more ambitious in the institutions, the methods—and I now use the word *method* in the ordinary pedagogical sense—the methods employed in the day schools tend to conform more closely to modern educational ideals, while in some of the institutions there is a clinging to curious mechanical devices and a reliance on verbal memorizing not in accord with modern educational canons. Grammatical feats, intricate to dizziness, and rather spiritless recitations of memorized extracts from textbooks seemed little calculated to rouse mental alertness or intellectual enthusiasm. It was not a matter of poor teaching—much of the teaching was admirable—but rather one of inheritance, it seemed to me. Our institutions were not only the offspring of the English charity schools, but also the pioneers in teaching English to the deaf; from the charity schools they inherit the long monotonous days, filled with much indoor employment and little physical training or out-of-door life, the programs which send pupils to the schoolrooms tired with hours of manual labor, and the tedious evening study-period in close ill-lighted rooms, when mind and body are alike fatigued; and from the pioneer days they come by the tendency to look upon language as a "mystery" attainable only thru initiation by symbols and formulas. The monotony of institution life became apparent to me thru a study of the daily journals. I read them carefully everywhere, with a view to discovering how far they reflected the characteristics of their social environment: in the institutions I found that, with a change of names, any journal might have belonged in any one of five states; while in the poorest day school—and it was pretty poor—the poorest journal indicated the nature of the fruit-crop, the character of the leading industries, and the number of railroads in the place. And the mysterious character of some of the language teaching was brought home to me by my own difficulty in understanding some of the mechanical devices with which fifth- and sixth-year children were struggling: too much knowledge of structure and too little expression of thought seemed to be the trouble.

But if these legacies from the past are outgrown, our institutions possess another of which they may well be proud, for it is from the same English charity schools that they inherited their trade teaching which our public schools are but just beginning to imitate. From the very first they have held up to their pupils an ideal of self-support and dignified social service, and have sent them out trained to take their places in the industrial world and to earn a living without asking allowance for their defect. So far the day schools, except in isolated instances, have had nothing like this to offer; like the public schools with which they are affiliated, they are still in the manual training stage. In spite of this lack of specific vocational

training, nevertheless, the past pupils of the older and larger day schools show no marked inferiority in economic efficiency, when contrasted either with their hearing brothers and sisters of like education, or with the past pupils of institutions, as a recent inquiry has shown. This fact does not detract at all from the value of the vocational training of the institutions, it only means that in this day of rapid industrial change, manual facility and dexterity, however gained, are valuable and have a market value.

It is not alone in the industrial world that rapid changes are occurring; we are in a transition stage socially and educationally as well; old processes and methods are dropping out of sight and new ones are on trial. Argument about the past, or even the present, is of little worth—so instead of a formal summing up and balancing of what I have been saying in regard to day schools and institutions, I wish to bring this discussion to a close by a look forward in the direction toward which present movements seem to tend.

It is becoming increasingly difficult to earn a living; the deaf, as well as the hearing, must augment their efficiency in order to live at all; and the very best gift which a public school can give its pupils is a definite vocational training. I look forward to a time when every deaf pupil, boy or girl, shall receive such a vocational training—a training more special than the day schools and more general than the institutions now give—a training which shall add to an early course in the use of tools and simple construction, a fundamental knowledge of one or more trade processes, and enough elementary science to enable the deaf to compete in many employments now closed to them.

I look forward, too, to a time when day schools shall be many, institutions smaller and broken up into family groups; when every large city shall do what Milwaukee alone now does—provide for the education of the deaf to the door of the university; when every deaf child with natural language shall be able to attend a day school near his own home; when improved methods and programs in all schools shall make learning less fatiguing; when all deaf children shall be instructed thru language and most of them thru speech; and above all, I look forward to a time when the last faint echo of the strife of methods shall have died away and left a peace wherein teacher or pupil can make an explanatory gesture without reproach—a peace wherein the right of the deaf of mature years to communicate by any means they choose shall never be questioned.

THE BLIND IN SCHOOLS WITH THE SEEING

FRANK G. BRUNER, DEPARTMENT OF CHILD STUDY AND EDUCATIONAL RESEARCH, PUBLIC SCHOOLS, CHICAGO, ILL.

In this paper the discussion will be limited very largely to certain features of the day schools for the blind, as they are conducted in Chicago. And it will perhaps not be presumptuous to refer to these as typical of what day schools can do for this class of unfortunates, inasmuch as it was in Chicago that the experiment of teaching the sightless in schools and classes with seeing children was first made and the pioneer work along these lines was done.

As many of you know, the experiment came about in some such way as the following: About twelve years ago there came to be felt in the state of Illinois a need for a second institution for the training of the blind, one especially which would be more accessible to blind children from the city of Chicago, who found it difficult to get to the institution down state. In connection with this agitation Mr. Frank Hall, then superintendent of the Illinois State School for the Blind, offered the suggestion that instead of building a second institution, why would it not be better to secure such enabling legislation as would permit the larger municipalitites of the state to establish and maintain day classes for the blind. This suggestion received the indorsement of Chicago societies interested in promoting the welfare of the blind, with the result that the necessary enabling legislation was secured and steps immediately taken toward the organization of such classes in the city of Chicago. This was in the fall of 1899. Mr. Curtis, a teacher in the Illinois State School, himself blind, was, at the suggestion of Mr. Hall, selected to take hold of and organize the work, and he has been in continuous charge of it to the present.

The motives which led to the organization of day classes were two. In the first place, it is the experience of those who look after the training of the blind that children get on faster, accomplish more and with less expenditure of effort, if they can be gotten hold of while young, preferably during kindergarten years. On the other hand, parents are loath and often unwilling to be separated from their children for such long periods as is required when they must attend an institution, and especially at an age when they need constant parental care. If, however, a day school were available and the child might be conducted to and from school daily by an older brother, sister, or some trusted companion, the problem would be solved. There are, to be sure, many other considerations favorable to day schools for the blind, some of which will receive notice shortly.

Owing to the geographical formation of the city, it seemed advisable to establish three centers; one on the south side (Felsenthal School), one on the west side (Clarke School), and one on the north side (Adams School). These centers were in connection with regular schools, in each of which

there were enrolled from a thousand to fifteen hundred seeing children and the schools were chosen with a view to their accessibility to street-car lines, since a considerable number of the blind children would find it necessary to utilize this means of transportation in reaching the schools. The expense of street-car fare of the blind child, as well as that of the person who must accompany him, is provided for by the Board of Education of Chicago.

In organizing the first classes in Chicago, Mr. Curtis sought to formulate a school program for the blind, wherein it would be possible for them to participate in every practicable way in the school life of their seeing companions.

In plan of organization the classes have undergone little change since they were first established, and just one additional center has been opened (Jahn School). The number in attendance at a single class varies, ranging from four to sixteen. In each school where a center is located, there is set apart a room for the use of the sightless children. Here those who are entering for the first time are taught to read and write in American Braille, and to this room those farther advanced in their studies repair for the preparation of their lessons, and receive such assistance from the teacher in charge as may be required. So soon as a child has acquired a fair mastery of the processes in Braille, however, he is enrolled in one of the regular school classes, and recites with his seeing mates, being given little more consideration than they. It is, perhaps, worth while to remark in this connection, that in the learning of Braille, the blind child experiences no more difficulty than does the seeing in learning to read ordinary English print or script.

To make it possible for the blind to recite with the seeing, it was found necessary to have the subject-matter of the school text books in use in Chicago transposed into Braille nomenclature. Provision was made for this by the Board of Education, a complete Braille printing plant being maintained and operated, so that all of the textbooks in use in either the Chicago elementary or high schools are available for the use of the blind in the raised Braille type.

The blind child thus studies the same lesson as does the seeing, and he recites with him in his class. When called upon to read he sits with his book in raised print before him and reads as rapidly, with as good intonation, and as intelligently as any member of his class. Indeed, from the recitation one would never guess that the child is living in absolute darkness.

In the preparation of lessons the younger children necessarily require considerable help, even with their reading and writing, but those more advanced need to be assisted only in the interpretation of maps, in handwork, and the preparation of the lessons in arithmetic, in the latter of which especially the child of darkness is very seriously handicapped. To overcome this Mr. Curtis has invented an aluminum arithmetical slate upon which there are rows of depressions into which may be placed number cubes.

Each cube has upon its surfaces the six-point raised numerals, which are such that by simply altering its position, any one of the ten numerals may be got from the single cube. Thus in working with numbers is avoided the task of selecting the appropriate cube, which of course would be exceedingly difficult without the aid of sight. Upon this arithmetical slate the blind child works his problem in addition, subtraction, multiplication, or division, and goes thru the arithmetical process exactly as does the seeing child with his problem on paper. This slate greatly simplifies arithmetical work for these unfortunate children, but the process, notwithstanding, is very exacting inasmuch as in the absence of the whole sensory impression thru the eye, the blind child must resort to feats of memory. It is not unusual, therefore, for these afflicted children to hold ten or twelve numbers in the mind at once while performing some number process, altho the average seeing child from ten to fourteen possesses a memory span of only about seven or eight. Such memory work in connection with arithmetic causes this subject to be very energy-consuming and exhausting.

In the Chicago day schools, it is the lot of the special teacher to present largely what handwork and vocational training is required, whether it be given in the special room or in the regular center for such instruction. In presenting this line of work to the blind child, it is necessary to manipulate his hands and to perform the processes with him, instead of offering him a pattern and the materials and requesting him to go to work, as is commonly done with seeing children. Blind children in the day schools of Chicago, New York, and Milwaukee, are thus taught raffia work, basketry, the weaving of splints and rugs, knitting, crocheting, carpentry, molding, typewriting, piano-playing, and piano-tuning. It will be noted that this is quite an extensive line of vocational work. But because of their limited sense experiences, unless provided with a large amount of training in concrete work, blind children are apt to become self-centered and impractical. It is extremely fortunate, therefore, that they experience little trouble in taking hold of almost all kinds of handwork which are employed with the seeing child in the public schools. On the other hand, it is quite obvious that so far as it is feasible the handwork for the blind child should be such that it will contribute to his future utility and adaptability as a citizen and useful member of society. Limited as to scope in the exercise of his choice of a vocation, because he must work in darkness, the sightless child's school training should be so ordered that his advent into the untried and, to him, little-known industrial world, be as easy as possible, and "to bid him in darkness select an occupation and to put to use his acquired powers," to quote Mr. Hall, "is hollow mockery." It is clearly necessary to do more than train the blind child mentally and physically. He should receive definite vocational training. And in supplying this, institutions, no doubt, possess many striking advantages.

Miss Gertrude C. Bingham, inspector of the classes for the blind in New

York City, is clearly of the opinion, however, that such vocational training as is required may be easily given by the blind child's special teacher in the public schools if she has been carefully selected, and particularly is this true since the introduction of machinery into so many of the crafts has served very materially to limit the vocational avenues into which those living in darkness may enter, thus making it necessary to offer only such things as require brain work largely. On this account music and piano-tuning seem best adapted to the needs of the blind and, indeed, they have proven the most lucrative lines of work into which they have entered. Clearly, too, if we could prevent labor from becoming joyless, it must be made remunerative.

Day classes for the blind have been in operation in Chicago for eleven years. During nine of these years Chicago was the only city on the continent where a child so handicapped could attend school on the same footing with his seeing brother and sister, recite with them in their classes, mingle with them in their plays, and partake of their whole social and community life. Indeed, it is only two years ago that Milwaukee, following the lead of Chicago, opened three classes, and only a year ago that the first two classes for the instruction of the blind were begun in Cleveland, and at the same time five opened in the city of New York. Day schools for exceptional children, whatever the character of their deficiencies, have now become the fashion, and indeed they require no defense, for their results speak for themselves. In comparison with institutions, however, the justification of day schools for the blind must rest upon their ability to satisfy two conditions: In them can children be trained as efficiently in the same length of time, and at no greater per-capita cost? With reference to the first part of the condition, that of general efficiency, the report of a lay investigation committee is at least interesting. After a careful study of the conditions of the blind in the several states, the New York Commission of 1906 recommended as follows:

> Your commission is of the opinion that in populous centers the plan of educating the blind with the seeing is entirely feasible and in view of their subsequent necessity to pursue their life's calling among sighted people, eminently practical and exceedingly desirable.

The testimony of Miss Bingham, inspector of classes for the blind in New York City, is in the same vein. She says:

> For seventeen years I was connected with institutions for the blind and one of them was as broad in its policy as any in the world, and yet I am convinced after seeing the results of even a few months' trial with these children in the public schools, that the latter are far better for the blind child. He need not go home a stranger to those in the community in which he must make his living, a stranger even to his own family.

Mr. Maxwell also, in his last annual report, insists that the blind do everything in their classes as well as do the seeing and as easily. Similarly Mr. Curtis, of our Chicago schools, assures me that blind children are very little handicapped in their school work. On the contrary, when they

enjoy the assistance of the special teacher in their study period, they do every whit as well as do the seeing.

To determine exactly what is the relative academic standing of the blind children in the Chicago day schools, I distributed them according to age and school rating. Many, and especially those whose parents were recent immigrants, entered the classes later than the normal age; parents often having been ignorant of the fact that any provision had been made for the education of children so afflicted. Often, too, parents detain their children at home, being fearful of having them travel long distances to school accompanied only by a brother, sister, or companion a few years older than the blind child himself. The results of this distribution are as follows:

Grades	Ages											
	7	8	9	10	11	12	13	14	15	16	17	18
I.....	1	2	1†	1*	1*	..	..	..	..	..	..	..
II.....	1	2	1	..	..	..	..	..	..	..	..	..
III.....	..	2	..	1	1†	..	..	1	..	..	..	..
IV.....	..	1	..	1	1	1	..	..	..	..	..	..
V.....	..	..	..	..	..	..	1‡	..	..	1*	..	..
VI.....	..	..	..	..	..	3	..	1	1	..	..	1*
VII.....	..	..	..	..	..	..	1	..	..	1	..	..
VIII.....	..	..	..	..	..	..	..	2	1	1	Very irregular	

* Entered very late. † Subnormal mentally. ‡ Absent on account of sickness.

On the basis of the foregoing, it is quite clear that so far as academic proficiency goes, blind children are in no way handicapped in working in classes with the seeing. In point of fact, taking account of those who entered school late, those of subnormal mentality, and those frequently absent on account of sickness, the general school rating of the blind children is slightly better than a similar distribution shows for seeing children.

It is difficult to secure data relative to per-capita cost of educating blind children, especially in institutions, since in the statistics published no allowance is generally made for the rental value of buildings, and so forth. All of this ought to be reckoned in determining the relative per-capita cost of education. In the Chicago day schools the annual per-capita cost of educating the blind, including everything this past year was $179.33. In Cleveland with one class the per-capita cost was about $210. In Milwaukee, where the classes are perhaps smaller, the total per-capita cost is about $200, and from the data available it would seem that for New York the figure is approximately the same as for Milwaukee.

The annual per-capita cost of administration, instruction, maintenance, etc., in the Illinois State School for the Blind for the present biennium is about $266 (this does not include rental value of buildings and grounds); in the Wisconsin State School the figure is $300; Perkins Institute, Boston, $270; Pennsylvania State School about $360. These figures are samples

only, but a perusal of the statistics given out from the various institutions would indicate that the per-capita cost for instruction, etc., in institutions is from a third to a half higher than that of the day classes.

In the care for the blind we have happily gotten beyond the stage of sentimentality. A blind person is no longer generally considered a helpless object of charity and maudlin sympathy. Everywhere these people of darkness, like other classes of defectives, are being trained with a view to preparing them for economic and social efficiency. We have simply come to realize that it is cheaper to educate these children for eight, ten, or twelve years so that they will be self-helpful and independent, than to house them in eleemosynary institutions for the whole of their lives, as was the practice one or two generations ago. It is conceded, too, that it is not the absence of sight in itself and the consequent deprivation of that rich fund of sensory experience that comes thru the eye that is the chief hardship of the blind and that which causes them to be unhappy, so much as their utter sense of dependence on others and their inability to provide for themselves even the ordinary necessities of life. If the state owes to each normal child the benefits of free schooling, to a greater degree it owes to the blind child an education, and that in association with those with whom he must afterward live, and with whom and for whom he must later on work. And this brings us at once to a comparison of the relative merits of day schools and institutions.

In day schools the periodicity of growth may be taken account of. Furthermore the education of these unfortunates should be such that social rather than purely psychological ends may be realized, and this is, obviously, possible of attainment only by co-ordinating the child's mental training with his home and social activities, with the things with which he is going to be concerned after his school days are over. This latter, too, is pretty closely correlated with a necessarily unfortunate feature of all institutional life, that of being segregated within more or less restricted quarters, separated from family and friends, and compelled for the most part to associate with those who are afflicted like themselves. And this is wholly contrary to the sanest kind of psychological doctrine, which is to the effect that to be made normal it is necessary for the abnormal individual to be associated with and to act as normal persons do.

It seems only just, therefore, in the case of all those handicapped by deficiencies of sense or an inadequate mental endowment, to permit them, while receiving mental and physical training, to develop such social attitudes as are essential to industrial success; and it requires no argument to make it apparent that this is possible only by allowing them to come into intimate daily contact with normal individuals, in the home, on the street, in the schoolroom, and in their recreative plays and games. In institutions children are necessarily shut off from participation in the throbbing life of the world, isolated in an extremely artificial environment, and thus unfitted for the

life they will be called upon to take up on leaving its precincts and entering upon the world. Moreover they are depressed, saddened, and discouraged by the dreariness incident to their enforced isolation.

When numbers sufficient to organize day classes can be congregated, therefore, there seems to be no question but that the school training which permits the child to remain with his parents, and to enjoy the benefits of his home (if it is not altogether bad), in the cases of most children is to be preferred to any form of institutional life.

INSTITUTIONAL CARE AND TRAINING OF THE BLIND

JOHN E. RAY, PRINCIPAL STATE SCHOOL FOR THE BLIND AND THE DEAF, RALEIGH, N.C.

The first institution established by the all-wise Maker of the universe was the home. And this is the most important of all our institutions in the "care and training" of children. Other things being equal—and they are not always equal—the more closely we can adhere to the original plan, the better.

The blind are just like other people, except they cannot see. This is a most important exception. Whatever is good, then, for the normal person is good for the blind, so far as conditions are similar. Whenever these conditions are favorable, the more we educate the child away from the home, the worse for the child. There is nothing which can, or ought to, take the place of parental love, care, and training; and the more closely we can keep the child in touch with the right kind of parents, the better for the child. This is theory and is ideal; but it is a condition and not a theory which confronts us, and so we must deal with the problem with all the possible lights before us, and make the best of the situation, considering every phase presented. Let us, then, consider:

1. The blind child is not normal and therefore requires special care and much individual training. Scientists tell us that a child receives from 75 to 90 per cent. of its impressions thru the eye. Even the casual observer, then, will see that the child whose chief avenue of information is closed needs, *requires*, special attention of which the normal child does not know. And being deprived of that most valuable assistant to locomotion, sight, special care is to be exercised for its welfare and development, not to speak of its pleasure, its progress, its safety.

2. With the deprivation adverted to above, one can readily see that specially prepared teachers and caretakers should be employed in order to secure the best results. Woe betide the blind child whose lot is cast among those who think that "anybody can care for and train the blind." Too many of our institutions have suffered from this baneful error, and therefore many blind persons have attained maturity without being able to care for themselves physically, or to make even a partial support.

It is the firm conviction of your speaker that the gentlest, the best qualified by nature and by culture, the best equipped men and women only should *ever* be employed as teachers, or even as caretakers, of the blind. Handicapped in the uneven race of life in the beginning, the least impediment in the way, the slightest misstep, the smallest hindrance may prove to be a tragedy. The blind, as a class, are supersensitive and should be dealt with most gently. How they long for love and sympathy!

We must teach our blind citizens that they *can* make a living, and, what is far better, *a life*. To do this most successfully the best qualified teachers possible should be provided.

3. And then special appliances are needed in the "care and training of the blind." These appliances are necessarily expensive. Embossed maps, globes, books, and apparatus of many kinds are required, in order that the child may learn to read and think for itself, to enable it to work out the intricate problems in mathematics and to get a conception of the size and shape of the commonest objects—those familiar to the normal child before it has advanced much beyond its infancy. Too many blind persons are utterly void of independence of action and thought. Who has not been pained by the shambling gait exemplified by so many?

4. And—shall I say it?—the homes from which some blind children come (if we may dignify them with the title of home) are, to put it mildly, simply deplorable. As is known possibly to many of those present, at least one-fourth, or one-third, of the blind children of our country are blind because of the impure, and in some instances vicious, habits of those who gave them birth. Since these things are so, does not every one see the wisdom of separating these afflicted children from such surroundings just as soon as, and for as long a time as, possible? With poverty and ignorance, not to say vice, on every side, the sooner the child is removed into a more desirable atmosphere, the better. The most poorly equipped institution generally presents superior advantages for care and training to those of the average home from which many blind children come. The training of the blind is difficult enough under the most favorable conditions.

5. And then, too, blind children are so apt to form habits which are objectionable to their own loved ones, and are in some instances positively repulsive to others. It is so important that these habits be corrected in childhood; otherwise they will continue thru life, and such things at times hinder blind persons from securing employment, even tho they may be ever so intelligent and capable.

Why are so many blind persons unable to care for themselves? Simply because they failed to receive proper training and care in childhood. And when a blind child is so fortunate as to come into a home of comfort, it is too often so much petted, pampered, and spoiled as to be rendered largely helpless thru mistaken kindness. I have known grown blind young women who were not able to fasten their garments upon themselves.

6. And yet again, the blind child, of all children, needs care and training in proper deportment and table manners—how to eat, how to use a knife and fork and spoon. (The more's the pity that this is not confined to the blind.) But how can such training be expected from those who do not well understand the delicate amenities of life? How can the busy mother, even when she knows these things, with all the work of the household upon her, or the teacher in the public school, with from twenty-five to seventy-five other children to train, find the time for so much attention to the one blind child, or two?

In this connection should be mentioned the importance of regular habits in eating, sleeping, exercise, and promptness in everything. These all conduce so much to the best success of the blind, and are supplied by all the best regulated institutions. Here then comes another item of expense—providing the blind child with such appliances as will induce it to take sufficient exercise to develop its too frequently anæmic little body. How much better and cheaper to have all these appliances in one place, where all such children may be congregated and thus save the expense of duplicating and multiplying in various places.

7. In addition to the literary and musical training so important to the blind, the well-equipped institution furnishes training in handicraft, which is supremely important to boys and girls alike. Many of the young women who have gone out from the North Carolina School for the Blind are making good at their needlework, fancy-work, and sewing. And the men who are earning their bread and butter by plying the trades taught them at the institution are legion. To those who are succeeding admirably as teachers in the public schools and academies of our state and others, and some as pianists, organists, and teachers of music, there are to be added many more who are making good as tuners and repairers of musical instruments, at cane-seating, broom-making, and mattress-making. And there are others still who earn their bread at weaving, hammock-making, basketry, brush-making, etc., etc., men and women.

The industrial phase of the work of the institutions and of blind citizens generally has so increased as to lead to the establishment in one of the largest department stores in this country of a special department for handling the wares made and for sale by blind persons. And, as is well known, industrial homes and workshops have been established in several of the centers of population for the aid and employment of such persons as are partially self-supporting, thus showing the necessity of care and training of some adult blind. These workshops are multiplying annually, which goes to show the increasing need of the institutional feature.

Let me add in passing, that from the best information in hand, 85 per cent. of the graduates of the North Carolina School for the Blind are self-supporting, self-respecting, and highly respected citizens of our commonwealth. Not a few of these are persons who have accumulated a

competence and some of them are possessed of fine means, all rendered so by the training received at the institution. Most of these might have been dependents and some of them possibly paupers, but for the care and training furnished at the school. Oh, yes; there are some who have never been trained in institutions, and still they have succeeded well; but these are the exceptions and only go to "prove the rule."

Now, for the foregoing reasons, and for others which might be multiplied almost indefinitely but for fear of trespassing upon your time, is it not clear that it is necessary from an economical, from an educational, from a moral point of view that "institutional care and training" be provided? The costly books and appliances necessary for the best results can hardly be supplied in the ordinary public schools, especially in communities where there are but few blind children; and this is the case in all rural neighborhoods and thruout the south. The expert teachers, too, cannot be secured, except at too great cost. The teachers in the public schools certainly have not the time to devote to children who require so much individual attention.

No one is more painfully aware than your speaker that there are objections to be raised to institutional life. No human institution is without its weak points and defects. The family is too frequently void of the power to exercise sufficient control to produce the best results. And even the church, established by the Saviour of mankind and fostered by his apostles, is sometimes criticized for its imperfections. We need not, then, expect the best-conducted institutions to escape criticism. But, in my humble judgment, the institution for the care and training of the blind is the best solution of the problem which confronts us, and it is with us to stay. Nothing better has yet been devised, and I greatly fear nothing superior will be found in our day. In Europe, where the education of the blind received attention long before similar schools were established in America, no better plan has been wrought out. It is my candid opinion that the cottage system of institutional life, separating the sexes and sizes as well as practicable, and thus furnishing more or less of the family feature, is the ideal plan and the best method for the care and training of the blind. I insist upon the separation of the sexes, for I believe that the marriage of two blind persons is nothing short of a calamity.

Then let those in authority see to it that our institutions shall be as thoroly equipped as circumstances will permit for the delicate and arduous tasks set for them—the care and training of the blind.

SCHOOLS FOR BACKWARD CHILDREN

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We hold that the instruction of backward children is most important. The movement for day schools for such pupils began in New York ten years ago with the odds and ends, taken from a class, itself made up of odds and ends. This class was housed in a building previously condemned by the Board of Health and closed when a new building was completed and occupied. The new schoolhouse soon became overcrowded and the principal took out from the classes those pupils not doing grade work, or in some way difficult to bring into line with the others. This class was placed in the old building mentioned above, and the poorer part of this class, consisting of twenty-eight or thirty boys, was considered an ungraded class. It was thought almost useless to try to accomplish anything with them. At last an entering wedge was found in manual training. Showed that something was possible for these boys to learn and to do successfully. With this incentive the boys came to school, were ready to come. Then the question arose as to the reason why these boys, who were capable of being taught manual training, could not also be taught to read and write. It was noticed that the boys were all undersized and, using Dr. Bowditch's tests, it was found that they were also under weight. Their brains were abnormal; hence they were unequal to the tasks assigned.

Now, there are over one hundred classes for backward children in New York. Principals of schools thruout the city report at least twice a year about children not doing regular grade work. Forty-two hundred such children were thus reported last year. They were examined by competent physicians. Some were sent to schools for tuberculous children which are held upon ferry-boats in many cases. Others were sent to classes for the blind, to schools for the deaf or to schools for crippled children. The last-established school of this nature is the out-of-door school for anæmic children. There remain subnormal children from a mental standpoint. These children are sent to ungraded classes for backward children. Often they are past the school age or attain that age before they have become sufficiently advanced to be able to support themselves. The question is pressing as to how to arrange for such to get a living: for instance, a boy of sixteen, strong, whose mother is determined he shall leave school and begin to support himself and her. This he is unable to do, but if he goes out from school, he will be a menace to society, and terrible results will follow if he marries, as he undoubtedly will. His mother, however, will not have him sent to an institution for the feeble minded. In one town there are four generations of imbeciles, yet they are not sent to the institution for their care.

An association in New York is following up the children who leave

ungraded classes on account of age. It is hoped to get a commission to decide on such children with authority to insist on the placing of such in institutions designed for their care. We hope the day is near when such a commission will be appointed. Let us help to bring it nearer.

CONSERVATION OF VISION AND THE PREVENTION OF BLINDNESS

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Two words which have attained high importance in our vocabulary of today are "conservation" and "co-operation." These are the guide-posts that indicate the new spirit of progress that is actuating and dominating our modern life. They are not the outgrowth of a materialistic but of a spiritualized philosophy. Far from being utilitarian, they are in the highest degree idealistic. They have to do with the profoundest of human sentiments—and are based upon the duties and responsibilities of life itself.

When we, as a people, have been so deeply stirred by a discussion as to the disposition that shall be made of our material resources, it has not been wholly because of the intrinsic value of our mineral wealth, nor the desire to preserve our forests—it indicates rather the awakening of the national conscience and a realization such as we have not felt before, of the obligations which rest upon us, rightly to use the gifts which have been bestowed upon us.

The new thought, therefore, and the new inspiration—which is, indeed, more than twenty centuries old—is nevertheless most disturbing to our complacency; for it fixes on each one of us, to the degree that we are given to see and to know, the responsibility for our part in the direction and use of the things and the forces that conduce to the betterment and the happiness of mankind.

The real wealth of a people is in its immaterial rather than in its actual possessions. It is not what we have, but what we do with what we have, that counts. In its last analysis, the true values are found in the people themselves, and just to that degree that their strength of body and of character is increased, the productive efficiency of the nation is augmented. The governing power of the nation of tomorrow is the schoolboy of today. The efficiency of the man depends upon the direction of the training and the completeness of the culture—physical, mental, and moral—of the child. If, in the progress of training, we limit or destroy any important function which he possesses, we lessen his productive efficiency, and to that degree we rob the nation of its potential wealth. It almost invariably happens that if one wrong condition exists, it is associated with or dependent upon another. In the consideration of the important subject which has been given

to me to discuss today, I will assume that the members of this association are familiar with the revelations which medical examinations of our school children have brought to our notice, because even the intelligent reader of current events knows of the psychological clinic and its discoveries. In the limited time at my disposal, I will concern myself with the conclusions to which these observations seem to give warrant. I will endeavor to show that the conditions which are slowly but steadily increasing the myopia of our school children, thereby rendering them more vulnerable to subsequent disease of the eyes, are corrigible and preventable conditions; and because, as I have intimated above, of the relationship and interdependence between one wrong condition and another, I wish to ask you to consider with me whether it may not be possible to inaugurate some basic changes which would allow a normal intellectual and physical development without at the same time sacrificing the integrity of the organism.

Focal defects in some degree are practically universal. The mathematically perfect eye is an ideal never attained. While eyes that are asymmetrical even to a small extent are strained by close work, such as reading or writing, sometimes quite large discrepancies may occasion little or no annoyance, if the eyes are used only at long range. Sailors, soldiers, Indians, and woodmen, generally, whose lives are passed in the open, have rarely occasion to give heed to their eyes at all. It is, therefore, the enormous strain of close work continued for from six to ten hours a day, including the incidental reading and writing, with wrong position, insufficient light, poor paper and badly printed books, that are responsible for the destructive processes that are taking place in our children's eyes. There is also no doubt whatever that this strain is greatly modified and the changes take place less rapidly if the extraneous conditions are made as nearly right as possible and the focal irregularities are corrected by suitable glasses. *They do not cease, however.* The glasses must be changed from time to time as alterations occur in the shape of the eyeball and as the importance of correcting these smaller abnormalities becomes more and more apparent. It is evident that we are rapidly becoming a bespectacled nation and that there is some justification for the dictum voiced by a distinguished professor of pedagogy of a Western University who gravely says that

> he has observed that some of the students on the campus—of which perhaps there are a thousand or more—are not wearing glasses, and as it is inconceivable that their eyes are optically perfect, they should at once consult an oculist!

In the discussions which have taken place, altho it is evident that the chief source of the difficulty is overwork on the part of the plastic, vascular, sensitive eyeball, which is crushed out of shape by continuous muscular contraction, no one seems to have recognized the simplest and most obvious method of prophylaxis, the only really safe and sane remedy—not in every little degree of defect to brace up the eye with focal crutches (necessary,

even imperative, as they are at certain times and under certain conditions) *but to lesson the hours of work in which the eyes are subjected to strain.* The labor unions have wisely limited the working day to eight hours for strong men whose body tissues are developed and resistant, while we compel the child at the formative period of his life to use his most vital and impressionable eye-structures as much as eight hours and *permit* him to use them in close taxing work for ten hours or more a day. His eyes will no more tolerate such unwarrantable abuse than will his muscles or his brain. Something must in time give way and usually it is the retaining coat which gives form and stability to the globe.

It would seem to me that we are not getting at the root of the matter at all. We have reason to congratulate ourselves on the splendid advances that have been made in pedagogic methods during the last few years. Practical work is being introduced in the school, such as printing, industrial and domestic science, but in the fundamentals we are still teaching largely thru the method of the printed page. We have made a fetish of books. We have become a reading rather than a thinking people. We have come to believe that the most effective way in which knowledge can be communicated from one person to another is thru the medium of the printed page, while that is in fact an indirect route to the mind. A picture of a thing, and especially of a thing in action, becomes almost immediately a thought. The printed word is not the thing itself. It is not even the *symbol* of the thing as is an Egyptian hieroglyph or the crude sketches of our aborigines. It consists of a group of arbitrarily chosen forms which, placed in certain combinations—more or less variable as we modify our spelling—*represents* the *symbol* of the thing. Consider for a moment the number of mental processes that are required to enable a child to grasp the idea which the word is intended to convey. A distinct interval of time can be recognized with each effort. When an action is to be expressed just so much greater must this interval be as it takes words to describe it. It may be objected that from the mouth to the ear is equally indirect, but it is not so. The business of the world is carried on by human speech.

The printed sentence, "A horse ran down the street" is a flat, colorless statement. What might be termed the ambiceptors of the mind unconsciously reach out in twenty different directions to complete the imperfect picture which the words suggest: "What was the color of the horse?" "Why was he running?" "Was he afraid?" "To what was he attached?" "Were the people in the street in danger?" These apparently unnecessary questions of the child show the normal working of the human brain. That which requires a page of description is *told* in much less than half the time required to read it—and all of this and much more, if *seen* is comprehended at a glance. The expression of the face, the tone of the voice, the gesture, the human interest conveyed are all interpretative. With a foreign language, still another additional mental process is exacted and we find our

students after two, three, or four years devoted to the study of French or German disappointed and unhappy to find that it is to them a dead language and that the result of their labor is a book knowledge only; while a little gamin from Palermo or Buda Pesth will pick up a useful vernacular in the streets to which he will add a richness of slang—and thereby, of vitality—that we may envy but can never hope to attain.

We must realize that there is another and a more direct way of getting at the intelligence of the child than that which we commonly employ, thru the printed page. I stop in amazement at my own temerity in daring to speak thus frankly on a pedagogic subject, but I know that many wise teachers share my belief that we have too many books, too many studies, not enough time for right athletics in the younger classes, not enough brain training to develop mental agility and logical thinking in any of the classes.

If the boy is to learn business, why not teach him business by means of veritable commercial transactions? He must learn real values. He must know actual commodities. He must be taught to think not only to a point but to a purpose. Is there not a hiatus between the teaching of the theory of mathematics and its application in manual training? Should not our girls whose lives are to be spent as home-makers be instructed specifically and definitely in the duties and the responsibilities of the direction of household affairs? Should they not be shown how to buy economically and judiciously? One of the most essential factors in the high cost of living is the prodigality of expenditure and the wastefulness in the use of domestic supplies, because of the lack of domestic training on the part of the average housewife. The school girl cannot know that which she has not been taught. Might not a part, at least, of the book education which she now receives be replaced by a training that would better fit her for the obligations of wifehood and motherhood? We cannot wonder that the experiment of marriage so often proves to be a failure and that the divorce courts are crowded with those seeking to remedy what has proven to them to be such an unhappy mistake.

If we would but simplify our teaching, make it more direct and personal, harmonize it, give to the pupil a little larger opportunity for original thinking, we would be amazed to see how rapidly the muscles of the mind would grow—and how immediate would be the influence upon every phase, not only of our private but of our public life. What a difference would be made in the lives of our people if the buying power of a certain amount of money were taught in our schools. Why should we not teach arithmetic more as a mental science and in the terms in which it forms part of our daily life? Why should we in adult life be obliged to take a pencil and paper for the solving of every little problem that presents itself to us? Why should hours be spent daily in futile note-making, wasting energy and destroying eyes, both in the writing and the reading when, a few basic ideas clearly put,

to be thought about, would do more to strengthen the mentality and to fix the principle than the reading and the writing of many hours would do? These are neither visionary nor theoretical ideas to which I am giving expression. They are the outgrowth of the real philosophy of Froebel. They have found expression with marvelously satisfactory results in our manual and industrial training schools. We have used them to some extent, tho not nearly enough, in our schools for the blind, but in their fullest development and most satisfactory results in the schools for the mentally slow. I saw a chosen group of the laggards in a school in Rochester, N.Y., in a gymnastic class following the rapidly given orders of the instructor in the game "Simon Says" and then imitating the equally swift motions of the arms and legs, without a word of command. It was evident that the training in quick co-ordination, in mental alertness and in fixity of attention was vastly more effective than any corresponding amount of bookwork could possibly be. If this were true of those whose responses were slow, how much better proportionately would it have been with children of active mentality? Lest I may seem to be wandering from the subject under discussion, let me say that the conclusions expressed are not only relevant, but they are an essential part of my thesis. At the request of the Association of Women Principals of New York City, a number of eminent oculists made a careful examination of existing conditions and formulated certain recommendations which they urged should be adopted. These recommendations were referred by the Board of Superintendents to a special committee of two whose judicious and thoughtful summary of the whole matter is worthy of careful consideration.

The subject of the paper to be used in the school books, the type, the position of the child, the lighting, are all considered, not only with the judgment of men of trained minds but with the practical knowledge of experienced teachers. "It is impossible," says this committee, "to dispense with the teaching of reading and writing." It is impossible, undoubtedly, and also undesirable. But is it impracticable to limit very largely the amount of reading and writing, in that way not only saving the eyes from unwarrantable use, but by limiting the hours of work, leaving some time for the study of the fundamental things of life?

One of the most important of these is the physiology of sex. Nearly, possibly fully, half of the existing blindness is a direct or indirect result of one or the other form of social disease, and therefore absolutely preventable. A large proportion of the cases are innocent victims. In an equally large number of instances, these frightful conditions are ignorantly acquired. No one can estimate how many are half blind or have lost one eye in consequence of infections of this character. The loss of sight is only one form of its destructive manifestations. It is filling our hospitals for the insane, our asylums for degenerates, our schools for the blind and the deaf. A Moloch of destruction: and yet our schools maintained at enormous

expense send out the young of both sexes with normal appetites and normal functions, but with no word of advice as to how these shall be governed or directed. Is not the time ripe for free and frank discussion in matters so vital and is not the judicious teacher, in conjunction with the parent and the doctor, the one thru whom such instruction should be given?

Such radical modifications of method, you may say, are impractical in a great educational system. But, in many vital ways ignorance must often pay the same penalty as crime. Pedagogy has, of late years, given evidence of being one of the most progressive of professions and if it is possible actively to interest the people in the schools, the reciprocal benefits will be beyond estimate.

May we not join forces and together seek to solve the problems which are of such vital import to the men and women of tomorrow? In the report of the superintendents which I have already mentioned, occur these words:

> Your committee believes that this question cannot be settled by educators, publishers, or printers, but should be determined by oculists. . . . . The latter have never made an extended investigation of the subject and hence can only give expert opinion which is not based on evidence. An investigation should determine the exact extent to which calendered paper is used, the effect of such paper on the eyes of the pupils, the amount of time spent by pupils working continuously at books made of such paper—and how often a day they do so.

But to give the work of such a committee a practical value, it should be carried out by oculists in conjunction with educators, publishers, and printers, and the recommendation of the committee—that a commission of five experts including oculists and one expert in lighting be requested to act as advisors to the Board of Educators in all matters pertaining to the eyes, that they be requested to prescribe methods of testing the eyes and means of reducing eye-strain and that every facility be afforded them to conduct investigations for the purpose of securing evidence as to the means of removing or modifying the controllable causes of defective vision due to the work in the schools—is the most effective method of arriving at right and wise conclusions. It is, moreover, in entire harmony with the plan to promote educational progress thru the United States Bureau of Education which is being urged by the Department of Child Hygiene of the Russell Sage Foundation, except that the latter contemplates a staff of "ten specialists" to study, investigate, and consult with local schoolmen. The American Medical Association has appointed a committee on the Prevention of Blindness which is already co-operating with the committee on Prevention of Blindness of the New York Association for the Blind which is maintained by the Russell Sage Foundation. It is prepared and will gladly take up in conjunction with the National Education Association a thoro and practical investigation of all of these questions, and from our joint efforts should it not be possible to devise measures whereby the eyes of our children may be preserved without in any degree lessening their

mental efficiency? And not only without adding to the period of school life, but by limiting waste effort and making more direct the methods of instruction, we will actually lessen the length of time which is now spent in preparation for the work of life.

WHAT KIND OF QUALIFICATIONS AND TRAINING SHOULD THE TEACHER OF THE SPECIAL CLASS HAVE?

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In the good qualifications and training of the teacher is the strength and hope of a class, in particular the special class. When casting about for a teacher to put in charge of a special class one should look for certain qualifications and training. For the purpose of simplifying the task there ought to be an examination in regard to:

A. Innate qualifications:
   1. Physical.
   2. Manual.
   3. Mental.
   4. Moral.
   5. Spiritual.

B. Acquired qualifications:
   1. A rich personality.
   2. A pedagogic sense.
   3. An insight into the mysteries of child-nature.

A good physique, good eyes, good ears, a good throat, a good voice, and general good health are prime physical requisites. Most school systems now require of candidates for positions a medical examination. If the physique is bad, or there is a marked defect in any one of the senses or in the vocal apparatus of the applicant, he is rejected. Modern progressive teaching requires above all things a good healthy frame, a sound body. The wider the scope of studies, the richer the curriculum for any given class, the more the teacher's physical endurance will be taxed. Physical culture, outdoor games, manual work, especially that in wood and metal, call for strength on the part of the instructor.

A quick sharp eye and an acute ear are indispensable to good discipline. One look flashed to a pupil speaking in an undertone may nip a rising disorder in its bud. Eyes and ears save the teacher's energy and thus increase his power for work.

A good throat and a good voice are necessary, because the special child must have much oral instruction. Furthermore he must be spoken to softly; harsh and rasping tones will of a certainty repel normal pupils and much more so the abnormal.

The benefits accruing to a class from the fine physical characteristics of their teacher will be greatly reduced if he does not enjoy general good

health. Frequent headaches, oft-contracted colds, recurring attacks of dyspepsia, causing short periods of absence, interfere with good results in a regular class; and infinitely more so in a special class. Progress, if not interrupted, is at least at a stand-still; the average substitute can hardly be expected to take up the thread where the skillful teacher left off.

Hand in hand with the physical goes the manual equipment. Deft fingers and steady hands are needed to sketch and plan, to cut, and saw, to match and measure, to chisel and hammer, to carve and file—in fine, to turn out patterns and models for articles in paper, wood, and metal to be made by the pupils. Without this manual dexterity there can be no command of the graphic art, of the use of crayon and pencil, beneficent handmaids of the teaching art.

Yet no matter how sound the body, how dexterous the members, one must still ask, Is there a sound mind? Is this mind original or imitative? Is it sluggish or quick? Is it shallow or deep? Is it befogged or clear? Can it stand storm and stress, or does it give out readily and quickly? The special-class teacher must possess an original, quick, deep, clear, and strong mind for aggressive, progressive, and successful work. With this originality, quickness, depth, clearness, and strength of perception and insight into things must go an abundance of that indescribable "sound common-sense."

Physical, manual, and mental qualities will produce but limited results if they are not accompanied by certain moral requisites.

First and foremost, the teacher must be just, he must respect the child's rights, must not be guilty of partiality while pupils are reciting, are working with tools or at the bench, or are engaged in play. Every pupil must know that his teacher stands for fair play, that he will give everyone his desert without fear or favor. His justice must be tempered with kindness. Law and gospel must always be combined. After justice has been meted out there must be no more reproaching and upbraiding, the scholar must get *carte blanche* once more and bygones must be bygones.

Regularity and punctuality must be pronounced; they are ancillary to order and good habit-building.

Then, too, the teacher must possess good judgment and taste. He must determine the correctness of conduct, of questions and answers, of plans and measures, of all kinds of handwork, of positions taken in games or of decisions rendered by game-leaders. Good taste will be exhibited in dress and personal appearance both of self and pupils, in the arrangement of room-furniture and in the selection of wall-decorations. A judicious and tasteful teacher is apt to make a judicious and tasteful pupil.

Dignity, authority, self-assurance, and power of initiative are further requisites of every well-qualified teacher. With respect for and control of self comes dignity, which always lends authority. Neither dignity nor authority can operate effectively without confidence in self and the

power to initiate. Lack of dignity will soon cause loss of authority, which loss cannot be made good by self-assurance and initiative. Authority once gone, a teacher might as well give up his class.

Fearlessness is another link in the chain of moral qualifications. When right, neither friend nor enemy is to be feared; one must have the courage of his convictions at all times, in the presence of parents, visitors, supervisors, and other officials.

To crown the moral qualities so far enumerated, persistence is essential. Occasional acts of justice and kindness, regularity and punctuality once in a while, good judgment and taste at times, self-assurance and initiative here and there, fearlessness in presence of inferiors, will avail little or nothing; but if persistently exercised in season and out of season will work wonders.

Thus far I have protrayed a physically and morally strong and an intellectual person into whom must yet be breathed a living soul. This soul must be of the missionary type, with a bountiful supply of good humor, amiability, affection, love, patience, enthusiasm, and optimism. Such soul-qualities will bring the teacher down to the *niveau* of the child, will lead him duly to weigh his pupil's experiences, joys, sorrows, and disappointments, will engender sympathy with the weak and abnormal, and will bring sunshine into the lives of such as would be cut low by many so-called philanthropists.

The innate qualifications spoken of will grow with practice and experience and will help to create and develop a rich personality, a pedagogic sense, and an understanding of the mysteries of child-nature. These latter qualifications I termed acquired, because they are largely derived from the teacher's education and training. It goes without saying that there are very few born teachers, or teachers self-made as one speaks of self-made business-men, teachers that have not gotten at least a secondary-school education or its equivalent.

A teacher's natural personality may be pleasing and winning, but it can become rich only by culture and by contact with other personalities. This culture, to be true, must be wide and deep and will come to a large extent from a thoro and continued study of the Bible and the great masters in literature. Of course music and fine art must not be neglected. Four years' communion with earnest, enthusiastic teachers will leave a mighty impress upon the mind and soul of a candidate for the teaching profession, and will make strong character an important trait of personality. Two or four years of college training would further enrich the candidate's personality. But in the present status of public-school administration this can hardly be required before he enters upon his professional training. The aim, however, should be in that direction; for the richer one's personality, the greater one's self-control, the greater one's freedom from domineering, the greater one's independence and the greater the independence of one's dependents.

Professional training should be general and special in order to establish a pedagogic sense and an understanding of the mysteries of child nature.

By general professional training I mean that gotten in a good normal school, or teachers' training school, or by hard study and many years of experience in classroom work. A fair knowledge of the history of education, of methodology and psychology must be required. Empiricism must be supplanted by scientific and artistic teaching. To obtain this, two years' training and five month's practice work are not sufficient, but there should certainly be five years of approved experience in the grades under competent supervision. General practice should always precede special practice; and, generally, unless there is proficiency and efficiency in general practice, great success in special practice cannot be looked for. If this is true in medicine, law, and other professions, it surely is true in teaching. If a teacher is not successful in the grades, he will hardly succeed in an ungraded or special class, where special difficulties are daily to be solved.

What special training then is necessary for the special class?

This depends largely upon the kind of class. To teach successfully the blind, the deaf and dumb, defectives in hearing or speech, the highly nervous and certain classes of feeble-minded children, many years of practice in first-class institutions for such defectives is required. Still better work would be accomplished if, besides the practice, the teacher had graduated from some training school for the teaching of defectives. Wherever conditions are such as will warrant the appointment of the graduate from a special school, it ought to be done.

There are other special classes to be formed and taught. Many pupils pronounced mentally defective are only children that are backward, due to irregular attendance, imperfections in the school, and other causes not to be found in their mental or physical organization. With these are to be classed truants, incorrigibles, those afflicted with chorea, and certain kinds of epileptics and feeble-minded children. Public-school systems are forced to care for the education of these children. For the present public opinion is not sufficiently educated to demand specialists for educating these elements in the schools. It therefore becomes necessary to gather them into small classes and select teachers for them that have many—if not all—of the qualifications enumerated. Boards employing such earnest, generally well-equipped and trained teachers to do special work, should send them to special schools, like Vineland, Plainfield, or the Orthogenic School of the University of Pennsylvania. Special children will thus be well provided for and not much additional expense incurred for the maintenance of the schools.

Having thus described what some may call an ideal special-class teacher, it remains for me to say how near to this ideal one can get when making a choice. There is a positive degree, a comparative, and a superlative. It is almost needless to state that the superlative is very seldom reached in

any of the professions, that of teaching not excepted. If innate qualifications are good in any one applicant and he possesses a rich personality, he can safely be accepted for special work. If one or two of the natural qualities are only fair, but the acquired, fine, the candidate can well be chosen. If all the qualifications are but fair and the soul qualities of the applicant good, the chances are that he will succeed. In every case great stress is to be laid on what I have called the spiritual equipment of the special teacher; and generally a woman is to be preferred to a man.

DISCUSSION

Alice Morrison Nash, principal, Education Department, New Jersey Training School Vineland, N.J.—Dr. Miller has covered the ground very thoroly in his excellent paper. However, there are two points I would emphasize even more strongly than Dr. Miller. One, the necessity of the mother love toward the child; the other, the necessity of specific training for the teacher.

Without this *mother spirit*, it matters not what one's ability or training may be—she cannot succeed with little children, and particularly with "special class" children.

When I was in Europe a year or two ago, a letter came to me one day from one of my co-workers. At the end of the letter was a postscript, which read something like this: "By the way, I almost forgot to tell you about Brant. He is our latest acquisition, and a terror. Do come home *soon*. We have all exhausted our resources—perhaps you have learned a new recipe for calming a whirlwind or stopping a flood."

When I returned, the first time Brant and I met, we didn't exactly meet—I couldn't catch him. He ran in and out of the seats, wanted to "speak a piece" on the stage, did not want to go to his class, but insisted upon "speaking the piece" just as the children were leaving the sides of the stage to go thru the Christmas drill. He also wanted to go to the laboratory, hospital, store, and his cottage. He wanted to go over and see the superintendent, didn't feel well, wanted his watch, wanted to write to his mother, and could he have his dinner. This all took place in less time than most of our children are able to have *one* want. With infinite patience he was finally calmed down. A few minutes later, however, he saw a pen-knife which he "borrowed," and just as the world was looking brighter to him, his hand gently fingering his new treasure, the teacher arrived. She missed her knife, and remembering Brant's fondness for such things, thought she had better interview him before looking further. No sooner did she approach him than panic ensued. Brant was determined that nothing on earth could coax, wheedle, or wrest the knife from him. Everyone in the hall wondered whether he had fallen down stairs, tripped over all the chairs in the building, or was simply on one of his daily "bouts."

This is a sample of many, many mornings that followed—the full day required infinite tact and patience on the part of the teacher, but most of all, the exercise of the mother-spirit. Brant is much better now—he is quieter and more easily controlled. His bad spells come only on occasions, and we smile as we look back to his diary.

Let me pause a moment and say at this point, that very frequently children are supposed to be naughty and disturbing, and are indeed so, because we fail to recognize the fact that they want attention and if they cannot get it in good ways, they will get it by notoriety, which to them means about the same thing.

Take courage. We all have our problems, and the *how* to solve these problems depends upon as many different things as does life itself. There can be no fixed rule. "We must all work out our own salvation," ever keeping before us three thoughts: "Mercy must temper judgment"; "Happiness is the surest road to success"; "We

must always aim for *ex*-pression, and not *re*-pression." The mother because of her mother-love realizes and calls for expression; the teacher too frequently thinks she must repress, and gets a child looking for notoriety.

Often I am asked, "How can you let them touch you?" These children are not even repulsive to those who know and understand them. Their looks, dispositions, habits, are accepted as part of their defectiveness, altho we try as far as possible to correct them. It is not for us to see and abhor, but for us to see and train. To do this, our first work is to gain the confidence of the child, and make him wish to do, not thru fear, but thru love. Once we make him recognize the fact that we understand him and are working for him, real progress can be made.

One other thing that the teacher of the special class must have for her work to be effective, and that is, special training. We do not believe because a teacher can sing songs, that she can teach music, or because she went to a kindergarten as a child, that she is competent to teach kindergarten. We do not expect any of the special lines of training from teachers who have not special qualifications for those lines, plus *special training*.

We are all slowly realizing that the little children need the best teachers, but we have not yet come to a full realization of the fact that the *special child* has been the *problem* of the public schools for years, just because the regular grade teachers have not been trained to understand him.

You all know of many cases of so-called incorrigibility, of truancy, of stubbornness, and of stupidity that have been set aright after the medical inspector has finished with the child. While the work of sorting out is slowly progressing, there are still to be found, in many special classes, the blind and the deaf, the moron and the imbecile, the merely backward child, and the so-called incorrigible. Any teacher who undertakes to train this heterogeneous mass must have a pretty definite knowledge of the material with which she is to work. She must know the training and methods in vogue in the best institutions of the country; she must know what mental deficiencies mean, how caused, how they may be overcome. She should know how to make simple tests of the special senses and how to train them to their highest development. She should have had enough practical work in the study of individual children, to enable her to go about it in a way to get results.

The period of years thru which training is possible with the mental defective is shorter than with the normal child, because the rate of development is slower. Therefore the child must not lose because the teacher has not learned her lesson. Slowly we are coming to realize how very little of the so-called "mental training" these children are capable of taking, and how much they advance in work that requires the use of the hand and the body.

With proper knowledge to back her, the teacher reaches the point where the backward child is no longer discouraging. She sees clearly his possibilities and feels her ability to bring him out of himself, and her heretofore passive sympathy becomes active, and directed by a knowledge of the actual need she becomes indeed a power for good, to help society to rid itself of the mental defectives who are sapping its very foundations. Teaching and acting as one having authority, she can advise, direct, and accomplish real things.

ORALISM IN ORAL SCHOOLS

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Methods of instructing the deaf may be broadly classified as oral, silent, and mixed. The oral method employs speech and speech-reading as means of instruction, the silent method uses finger-spelling and the sign language, and the mixed method appropriates, whatever it desires from the oral and the silent method. Writing has a prominent place in each of these methods. Schools for the deaf may be designated according to their methods, as oral, silent, and mixed. Ignoring one small silent school, we may say that approximately four-fifths of the deaf are educated in mixed schools and one-fifth in oral schools. In mixed schools fully one-half of the pupils are taught wholly or chiefly by the oral method, and of the remainder, three-fourths are taught by the silent method.

I have the honor to be at the head of the oldest oral school in America, and I am a year or two older than the school I represent. Today there are more than eighty oral schools in the United States, and the number is increasing every year. In 1892 only 20 per cent. of the children in our schools for the deaf were taught by the oral method; today more than 60 per cent. are taught orally. When the schools for the deaf reopen next fall most of the new pupils will be placed in oral classes.

These figures indicate a growing recognition of the superiority of the oral method. Oral teachers in mixed schools have to contend against unfavorable conditions not found in schools where only the oral method exists. I have paved the way for announcing my belief that the best schools for the deaf are oral schools, and now I wish to tell you wherein oral schools are not so good as they should be.

A large number of pupils in oral schools are able to converse readily with nearly every person they meet. A larger number who use speech and speech-making freely with their intimate acquaintances, find more or less difficulty in understanding strangers. Others, while materially benefited by oral instruction, are, in all kindness, very poor lip-readers.

An oral school should not be judged by the few graduates it sends to high schools and colleges, but by what it does for the rank and file of its pupils. Candor compels me to say that many of our pupils fall sadly short of the desired proficiency in reading the lips. Children vary; as speech-readers some have ten talents and some five talents, but something is wrong when a child hides one talent in a napkin. Making very few exceptions on account of imbecility and partial or total blindness, I believe that inability to read the lips is due to inferior teaching or unfortunate conditions rather than to any inherent defect of the child.

Many teachers in communicating with poor lip-readers resort to an unnecessary amount of writing. It very often happens that pupils who require

the most practice in lip-reading are afforded the fewest opportunities for becoming proficient. The less writing the teacher does, the less writing she will find necessary. The cure for poor lip-reading is more lip-reading. The attitude of the teacher often insures failure. If she shows that she does not expect pupils to understand, they will rarely disappoint her.

Poor lip-reading is often due to lack of concentration. Some teachers rarely have to repeat, while other teachers have to tell nearly everything two or three times before all the pupils understand. The difference is in the teachers rather than in the pupils. When the teacher commands strict attention, she has to repeat very little; when the teacher does not command strict attention, everything has to be told over and over.

The teacher is constantly tempted to shield the pupil by shaping her language in the way most easily understood. This gives a stereotyped phrasecology which seriously retards the child's progress when thrown with persons who use the language of the hearing world. Governed by the same motive, teachers occasionally seem afraid to give the child more than a few words at a time. There should be less simple question and answer work and more extended discourse on the part of both teachers and pupils.

Exaggerated motions of the lips, jaw, and facial muscles give the child an erroneous idea of the movements necessary to produce correct articulation. It is not desirable to speak so slowly that each consonant stands by itself and each vowel is resolved into a diphthong. Distinct speech, without "mouthing," and as rapidly as in ordinary conversation is what the deaf child should expect from the teacher. In addition to this, the child should have all possible practice in reading the lips of those who speak with less accuracy.

Professor Giulio Ferreri says, "Speech-reading is not to be taught, but only to be practiced." Practice in speech-reading should begin as early as possible and the more practice the better; but under the most favorable circumstances this practice does not meet the conditions of some, while others labor under circumstances that are very unfavorable. Systematic drill is often of material advantage, because it enables the pupil to obtain in the most economical way the particular kind of practice he needs. This drill should be very largely of syllabic combinations utilized in the formation of words, phrases, and sentences.

Persons unfamiliar with the deaf cannot always understand the monotonous speech of children who have never heard. There are times when even a teacher has difficulty in understanding pupils whom she has never taught. Where there is no accent, no inflection, no emphasis, nothing except a dull, slow movement of syllables, the greatest accuracy of positions is likely to result in a monotony far from pleasing. This same movement without some accuracy of position is intelligible to a few teachers who can understand any noise produced by a deaf child, but it is not always intelligible to the rest of the world.

These conditions are most likely to exist in schools where the element method is used, where the child learns to pronounce each sound, or element, separately and later combines these sounds in a way that is not always musical to the ear.

The condition is different where the word method is used. There we find more continuity and greater flexibility. The flow of sounds is more rapid, more regular, and with larger freedom. The trouble is, we also find a higher percentage of inaccuracies. Considering the worst cases, in the "element" school we hear most difficult English and in the "word" school we hear what appears to be more fluent speech but in a foreign tongue.

A few advocates of the word method take the position that the child will speak more accurately as he grows older, just as the hearing child does. Some even go so far as to say, "Treat the deaf child exactly as if he could hear." To a limited extent this is good advice; but we should never forget a point of difference between the normal and deaf child—one can hear and the other cannot. When a normal child's attention is called to his errors of articulation, his hearing will usually enable him to correct them; but the deaf child who can be guided only by memory of position, is not going to improve to the same extent. A few prominent positions he can correct from observing other persons, but many positions are partially hidden from view, and he will necessarily take these positions as he first learned them or else make sounds at random.

In the beginning the deaf child should be given a course of vocal gymnastics to enable him to control his tongue, lips, and other vocal organs. When the desired control is obtained, the child is ready for the elements of speech. Each of these should be made with the greatest possible accuracy. Combination of elements should begin immediately after the second elementary sound has been acquired. As soon as the first vowel is learned the combinations should be of a syllabic nature. A few elementary sounds can possibly be learned more readily in combination, but here the correct position should be definitely fixed by varying the combinations until the desired element is clearly differentiated.

Dr. Alexander Graham Bell has frequently told us that a single indefinite vowel is sufficient for intelligible speech, provided the consonants are formed correctly. Thus us tru but unfurtunutlu ur pupuls du nut ulwus furm thur cunsununts curructlu.

Sir Morell Mackenzie says, "'Take care of the vowels and the consonants will take care of themselves' is a maxim that is scarcely an exaggeration." Id ith bewy dwoo dad koot vowels are ob imbordanth. If the deaf always formed their consonants accurately we might ignore the vowels, if they used perfect vowels we could be lax with the consonants; but, since neither is the case, the necessity for careful training in both consonants and the vowels is apparent to the teacher of articulation.

Accent and emphasis do not receive deserved attention early enough to

be used to the greatest advantage. It is not desirable that all elements should have equal force—some should be slurred—but it is desirable that the important elements should be emphasized. It matters very little whether I say *desirable*, *dēsirable*, *dŭsirable*, *dĭsirable*, *dêsirable*, *desirĭble*, *desirāble* or *desirŭble*. The importance lies in making the *i* long and in accenting the proper syllable. With intelligent grouping of words in the sentence and with correct accent and emphasis, the speech of the deaf can be improved many fold.

The teacher should endeavor to learn the normal pitch of each child's voice. By doing this she is better prepared to take steps to prevent the child from pitching his voice ruinously high or low.

Above all, we should strive to develop to the utmost the head resonances. Herein, I believe, lies the greatest improvement of the voice in the future.

Deaf children frequently use unnecessary muscles while speaking. In many cases, especially during the earlier years, the teacher should cultivate repose in the child and show him that it is not necessary to speak with his whole body. Much practice in easy familiar words or nonsensical combinations will often prove beneficial. The voices of many young children are very weak, and shouting, or loudness, is responsible for much of the disastrous constriction of the muscles of the throat and back of the mouth.

Every oral teacher should strive to develop muscular sense in the vocal organs.

> It is this muscular sense which, in the case of those of our pupils who have no speech when they come to us, guides the movements of their vocal apparatus while imitating the sounds of speech, and as they depend upon it entirely and use it continually, it becomes very acute in a very short time. (D. Greene.)

With this muscular sense, the teacher has only to imitate an incorrect sound in order to know in what way the articulation is faulty. Without this muscular sense, the teacher will know that something is wrong, but she may not have the faintest idea of the nature of the defect. When you don't know what to do in articulation teaching, do nothing. We want a watch to keep good time, but we are not likely to improve the condition of the watch by using a monkey-wrench to repair it in the dark.

Experiments are necessary if we hope to progress; but we may think we are experimenting when we are only tinkering. Before experimenting with a deaf child, we should know definitely what results we are trying to obtain and whether or not the child can be injured by the test. We cannot follow the rule to "try it first on the dog," but we can usually try it first on ourselves.

Contempt for details is responsible for many faults of oral teaching. Other faults occasionally are due to lack of imagination. A certain teacher was trained by So-and-So, So-and-So being a star of the first magnitude in the oral heavens. This teacher never questions the reason, but does exactly what So-and-So told her to do under certain circumstances. If

satisfactory, the results are a vindication of the expedient; if unsatisfactory, the child is stupid and should be put in a lower class.

While hard-working and conscientious, a number of teachers seem to think they are accomplishing about all that can be expected in oral teaching. Oralism is a blessing to the deaf, and these teachers deserve greater reward than they shall ever receive on this earth; but after all they "see thru a glass darkly." When every deaf child in America can understand what a person says from his shadow on the wall and can be understood by every English-speaking visitor, then, and not till then, may we fold our hands and with complacency say we have done all that can be desired of an oral school.

DISCUSSION

Mrs. Sarah Jordan Monro, special teacher of speech and voice-training, Horace Mann School for the Deaf, Boston, Mass.—The first point considered by the writer of the previous article is that of *speech-reading*. He says:

I believe that inability to read the lips is due to inferior teaching or unfortunate conditions rather than to any inherent defect of the child.

I agree fully with the writer that this is the case—inferior teaching or unfortunate conditions.

A child of average ability, or even one somewhat below the normal, can become a good speech-reader if he is taught by a *good method*, by a teacher who applies it *intelligently*, and is given *unlimited practice*.

"Many teachers," says the writer, "resort to an unnecessary amount of writing." I would avoid everything that is unnecessary, for the time for work with the deaf children is all too short, but in class teaching the danger of conveying wrong impressions thru speech, unaided by writing, is so serious that I would not advise less writing.

I would require a pupil to try over and over again, and then let him see in writing that which he has failed to decipher from the lips.

Pupils differ in their attitude toward speech-reading; some are too distrustful of their ability to know and, while understanding a part of what is said, will not venture to repeat the remark. To such as these the teacher's writing gives confidence. It also shows them the slight differences that exist in the elements of speech.

"Practice in speech-reading should begin as early as possible," says the writer. It does begin with the first lesson in speech, for while the teacher is showing the child how to control and guide his tongue she is teaching the reading of speech.

The point that concentration is necessary is well taken. Concentration is at the foundation of good speech-reading, for nothing in this or in any line of attainment can be accomplished without fixing thought upon it.

A skillful reader of speech gets the statement as a whole. It flashes out upon him from the face and mouth of the speaker much as the words of an electric sign flash out before our eyes. We see it suddenly and as a whole.

Rapidity on the part of the speaker is very desirable from the first, even if only one or two elements be spoken.

That which the writer says about exaggeration is excellent. Exaggeration is one of the greatest evils in speech, for, as the word indicates, it takes us "ex," away from, the normal which it is our aim to reach.

The part of the paper which has the greatest interest for me is that in which the writer refers to monotonous speech. Let us consider for a moment what constitutes agreeable speech in a hearing person.

Good speech must have a clear, pure tone, not too high or too low in pitch, neither too loud nor yet too soft to be easily heard, distinct enunciation, proper accent, rhythmic fluency which includes phrasing and change of pitch, also expression which has to do with inflection and quality of tone. Behind all this there is the controlling power, an active mind, sitting, as it were, on its throne dominating all.

How does the speech of a deaf child differ from this I have described?

Most of all it lacks change of pitch and expression.

Think of the change of pitch in the statement, "It is raining."

If we are indifferent, we say, "It is raining"; if surprised, we say "It is raining"; if disappointed we express it in still another way.

The difference in inflection comes from our mental attitude.

The best teachers of the deaf today are able to get distinct enunciation, an agreeable quality of tone, in most cases a good conversational pitch, proper accent, and a certain kind of fluency, but the question least studied is how to give to speech that variation which thought and emotion impart to the speech of hearing persons.

Psychologists tell us that in the act of thinking the mind proceeds from idea to idea by a series of pulsations which are rhythmic. We rest upon one idea, then leap to another according to the association of ideas, and this spontaneously causes a leap in the voice.

If these changes in pitch, together with tone-color, depend upon the way we think and the degree of vividness in thinking, why is hearing absolutely necessary to gain these points?

It is said by a teacher who trains the voices of hearing persons that the reason the deaf do not vary the pitch is that they have been taught objectively, and the mind is in a mechanical attitude. The making of tone with them is not the spontaneous expression of the action of their minds.

Just think of the time and of the money spent by persons who hear, to improve the quality of their voices and to correct defects of speech!

It is not right for us as teachers to neglect to give to the deaf the very best training in this direction and a great deal of it.

DEPARTMENT OF SCHOOL PATRONS

SECRETARY'S MINUTES

OFFICERS

President—Miss Laura Drake Gill, president Association of Collegiate Alumnae..Boston, Mass.
Vice-President—Mrs. Hugo Rosenberg .....Pittsburg, Pa.
Secretary—Mrs. Orville T. Bright.....Chicago, Ill.

FIRST SESSION—Wednesday Morning, July 6, 1910

The Department was called to order in Trinity Parish House by the president, Miss Laura Drake Gill, who stated the reasons for holding an informal conference in preference to presenting a formal program at this time. The appointment of a Committee on Nominations was announced as the only business to come before the meeting. It was moved, seconded, and carried that a nominating committee of five be appointed by the President.

Appointments were made as follows:

Miss Dimmick, Alabama, *Chairman* (Southern Association of College Women).
Mrs. Goulston, Massachusetts (Council of Jewish Women).
Mrs. Barnum, New York (Association of Collegiate Alumnae).
Mrs. Rice (Congress of Mothers).
Miss Carpenter, Tennessee (Federation of Women's Clubs).

The president then introduced Miss Dimmick, president of the Southern Association of College Women, who gave a greeting from the South and outlined briefly the work of her association in its effort to raise the standard of the southern colleges, and thru the colleges, the preparatory schools.

A résumé of the work done by the various state committees of the department was given by the president and supplementary reports were made by Mrs. O. Shepard Barnum, of Los Angeles, Cal.; Miss Bernd, of Macon, Ga.; Mrs. W. L. Smith, of Massachusetts; Mrs. N. C. Barnum, of New York; and Miss Carpenter, of Tennessee.

Miss Adams, of Smith College, gave a brief address on "Citizens' Co-operation," and Miss Ednah A. Rich, president of the State Normal School of Manual Arts and Home Economics, Santa Barbara, Cal., outlined the work of that institution and advocated the larger use of the school equipment as well as the extension of manual-training teaching to younger children.

The meeting then adjourned.

SECOND SESSION—Friday Morning, July 8, 1910

The department was called to order by the president.

Clark W. Hetherington, professor of physical education, Columbia, Mo., gave an informal address on the value of playgrounds and the means of getting them, giving a brief history of the work in Missouri, and setting forth as the two essentials of success the co-operation of the mothers and the securing of properly qualified directors.

Mrs. O. Shepard Barnum, of Los Angeles, Cal., was called upon to present points for home co-operation as indicated in the outlines of future work given by the state committees.

A discussion of the points presented for possible home co-operation in the program of the Department of Physical Education was given by Miss Lord, and Dr. Robbins, of New York.

Miss Carpenter, Dr. Robbins, and Mrs. Goulston reported upon suggestions for home co-operation gathered in the meetings of the Child Study Department.

Mrs. O. Shepard Barnum reported upon the meetings of the National Council of Education as follows:

The official recommendations of the National Education Association in 1908 and 1909 favored industrial training, attention to exceptional children, moral education, physical education, and the use of school plants as social centers. In accordance with this progressive policy the Council this year seems to have devoted its attention almost exclusively to these great problems. All the papers and discussions involve matters in which the community and the home should help. All the papers would be valuable to us for practical suggestions. It is impossible to go into detail here. Suffice it to say that the approval of this great body of expert educators would indicate that we should begin this year and not stop until industrial training is introduced and adequately supported everywhere in the particular form desired by local school authorities; until exceptional children are everywhere scientifically handled; until medical inspection and supervision are universal; until moral training, in whatever form the schools approve, has come to prevail.

The possibilities of community and home helpfulness thru the "Economic Use of Education Plants" was especially apparent. The plan presented for using the school buildings for "the greatest good for the greatest number," for using them day and evening, summer and winter, for study and work and play, seemed little short of ideal. Indoor play space, roof playgrounds, rooms that could be thrown together, equipped with adjustable tables and desks, room provided with one entire side that could be opened to the air—all at the disposal of the children, the young people, and the adults of the neighborhood, yet all carefully supervised, presented an alluring picture of community gain from the schools which we should strive to reproduce everywhere.

The report of the nominating committee was called for and the committee presented the name of Mrs. O. Shepard Barnum, of Los Angeles, Cal., for president; the remaining officers of the department holding over for another year. The report was accepted and Mrs. Barnum was unanimously elected. The following resolution was read and on motion adopted:

Resolved, That the department authorize the administration of its affairs for the coming year by an Executive Committee composed of the three department officers and five other members to be appointed respectively by the national presidents of the General Federation of Women's Clubs, the National Congress of Mothers, the Council of Jewish Women, the Association of Collegiate Alumnae, and the Southern Association of College Women.

A motion that each president of a national organization represented in the department be instructed to name and report a member for each state committee on or before October 1 for the year 1910, and on or before June 1 for succeeding years was made and carried.

It was moved and seconded that an acting vice-president be named to serve during the extended absence of the vice-president. Carried.

Mrs. Caesar Misch was nominated and unanimously elected acting vice-president.

The meeting then adjourned.

Mrs. Orville T. Bright, *Secretary*

PAPERS AND DISCUSSIONS

THE WORK OF THE DEPARTMENT OF SCHOOL PATRONS 1909–1910

LAURA DRAKE GILL, PRESIDENT, ASSOCIATION OF COLLEGIATE ALUMNAE
BOSTON, MASS.

To reduce the great duplication of addresses at our annual convention a formal program by this department has been waived for this year, in the conviction that our members may find in the programs of the Council, and of the Departments of School Administration, Child Study, and Physical Education, such valuable suggestions as we should seek for any independent program.

This has left us our full allotment of time for informal discussion of what we have already done, and of the best ways of doing yet more in the coming year.

Several state committees have failed to render formal reports of work which the officers personally know to have been successfully done. In spite of this personal knowledge it seems wise to refrain from reporting this work, and to confine this statement strictly to such matter as the committees have presented in official shape. We must, however, record our regret at these known, and other probable unknown, omissions of actual achievement.

Instead of a formal presidential address I beg to offer the following abstract of our year's accomplishment as gleaned from the reports of the chairmen of the various state committees:

ARKANSAS.—Committee has published bi-monthly articles on subjects connected with the educational needs of the state. These have been sent to three hundred newspapers and have been printed by an average of about one hundred. It also worked for the attendance of people, who should be interested in education, at the meeting at Little Rock of the Conference on Education in the South.

CALIFORNIA.—(1) As a result of the Health and Development Supervision law which the committee helped to secure last year, the work has been introduced this year into the schools of Redlands, Pomona, San José, Santa Rosa, Berkeley, Oakland, Claremont, and Monrovia under the boards of education; in San Franciso and Fresno under the boards of health. It is now planned for Chico and Sacramento. Previous to the passage of the law it had been undertaken in Los Angeles, Pasadena, and Santa Monica. (2) Two measures have been placed under discussion, after consultation with the school authorities, in readiness for the session of the legislature next year: (*a*) Teachers' pensions; (*b*) A changed basis for county superintendents from general election to some strictly professional selection by the school board. (3) Letters and telegrams have been sent in advocacy of a Federal Children's Bureau and a Bureau of Health. (4) Fourteen Child Labor Scholarships have been supported, averaging $3.00 a week for a year, usually given to children between twelve and fourteen years of age to keep them from premature work and to continue school advantages; sixty-nine investigations made; help given in various ways. (5) School bond issues have been successfully aided in some localities.

(6) Some investigation has been begun of the California statistics concerning school attendance, truancy, child labor, and relative number of children in the various grades. Industrial and agricultural education advocated and especially moral training. Taken by towns the special work is:

Los Angeles.—(1) Valuable co-operation by the parent-teachers' associations, with a day nursery. The school board furnished ground and building, the women gave the equipment and nurse. (2) An "emergency committee" has co-operated with the Associated Charities in furnishing clothing, books, and medical care to school children. (3) Equipment now furnished (not all done this year, however) for one hundred and six elementary-school playgrounds, and many buildings ornamented and grounds improved. (4) Influence brought to buy additional ground for schools of the old (factory) type. (5) A continuous and remarkable decrease in the number of suspensions and cases of corporal punishment, attributed to the special schools and the influence of mothers. (6) Penny lunches in several schools.

San Francisco.—(1) Public kindergarten established. (2) Obtained police prohibition of immoral dances in cafés. (3) Is working for reduction of price for children at Lurline Swimming Baths. (4) Obtained authorization for special school for twenty-four backward children. (5) Protested against repeal of nickel-in-the-slot machine prohibition. (6) Worked for Bureau of Health and Federal Children's Bureau. (7) Ordinance carried against the sale and use of mixed confetti. (8) Obtained reduction of price of Golden Gate Playground Concession for Children to three rides for a nickel. (9) Carried bond issue for Polytechnic High School. (10) Caused passed, and have generally issued copies of, the ordinance regulating moving-picture shows. (11) Have caused introduced into Board of Education budget a request for $10,000 for an open-air school. (12) Shower bath installed at the Parental School. (13) Suggested and obtained column in school-census blank reporting children gainfully employed.

Georgia.—Has issued a leaflet, outlining the legislative work for which support is needed, and the special points upon which a definite public opinion is called for.

Iowa.—(1) Introduced some industrial work in twenty-four schools; medical inspection in two schools; two school gardens. (2) Organized parents' associations and seven school libraries. (3) Served as truant officers in two towns. (4) Did regular work in school visiting in two towns.

Kentucky.—(1) Has continued last year's policy of working for consolidation and grading of country schools, wherever practicable. (2) Gave active support to good-roads movement as a preliminary measure to consolidation. (3) Since high schools were made obligatory in every county two years ago, the committee has worked for a standard of tabulating and supplying leaflets to every country club and to school officers upon the various college requirements. (4) The extension of women's organizations to new towns, in order to have active bodies definitely founded for educational work.

Maryland.—Studying the school attendance laws and conditions in the various counties.

Massachusetts.—No organized work, but each organization has been working effectively. Nearly one hundred parents' associations have been formed.

Michigan.—Is co-operating with a Schoolmasters' Committee and the Michigan State Grange to carry a fundamental revision of school laws thru the state legislature of 1911. The aims are removal of city schools from politics, centralization of rural schools and medical inspection. Four bills are now being considered by the various organizations and are arousing public interest and discussion.

Minnesota.—Have worked with several bodies and secured advance in: (1) Establishment of supervised playgrounds; (2) children's gardening and tree planting; (3) more hygienic schoolrooms, including (*a*) medical inspection, (*b*) banishment of common drinking-cup. (Plan for next year is a direct social pledge for help to children, on recom-

mendation of teachers, at critical age of deciding about life's plans and continuation in school.)

NEW JERSEY.—(1) Petition for introduction of instruction in home economics and household arts in state normal schools. (2) Wide-spread study of legislative conditions on all education, child labor, and children's court procedures.

NEW MEXICO.—Decided to work for better primary education, even tho it means temporary curtailment of expenses for higher education. Resolutions sent to every newspaper in the territory and to all women's clubs, urging better ventilation of schoolrooms and regular physical exercises.

NEW YORK.—Carefully chosen advisory committee of laymen, believing it better to keep it a laymen's movement.

NORTH CAROLINA.—Continued work for child-labor legislation, emphasizing more definite and effective form. Correspondence with clubs in regard to extending medical inspection. Chairman prepared a series of leaflets on hygiene to be printed by the State Department of Instruction for distribution among school children. At a later meeting a report was given of correspondence with the clubs, and medical inspection was decided upon for next year's work.

OREGON.—Studied returns of last year's questions to every school about sanitary conditions. Direct relations of helpfulness have been established with about one-half of the thirty-three county superintendents. Committee drew up circular letter to all members of schools boards suggesting sanitary points to be considered in putting up new buildings or remodeling old ones; also suggesting rules for sanitary care of the buildings and grounds.

TENNESSEE.—(1) Is co-operating with the Southern Conference of Women and Child Labor; also (2) with the school improvement work which is organized under the State Board of Education; (3) worked for the birth-registration bill, which was passed; and (4) are now working for a proposed general-medical-inspection bill.

UTAH.—(1) Attention drawn to fact that no woman was on either Board of Education of Salt Lake, or on Board of Regents of the University of Utah, while it is legal. There are, however, women on the boards of the Utah Institute, Agricultural College, and institutions and Commission for Blind. (2) Study made of age and reasons for early leaving of school and its relation to the curriculum. (3) Report on fire and sanitary conditions and care of the seventeen grade-school buildings in Salt Lake City. The report on structural defects is not yet ready.

VERMONT.—(1) Established two scholarships at the State Normal School. (2) Advocated medical inspection. (3) Urged laws for regulating the tenure of office and a minimum wage for teachers.

WEST VIRGINIA.—Worked for enforcement of an existing law requiring the state and county medical societes to inform teachers of cases of infectious or contagious diseases.

WISCONSIN.—(1) Worked for investigation and centralization of rural schools. (2) Organized general study of teachers'-pension bill. (3) Working for minimum wage for teachers and for women on school boards.

This shows eighteen active state committees, five of whom formed their organization during the year.

Organized, but not reported.—Alabama, Colorado, Connecticut, Delaware, District of Columbia, Illinois, Louisiana, Mississippi, Missouri, and Virginia have been reported as organized, but have sent in no report.

Not organized.—Arizona, Florida, Idaho, Indiana, Kansas, Maine, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Texas, Washington, and Wyoming have not reported any organization for the year.

THE WORK OF THE COMING YEAR

MRS. O. SHEPARD BARNUM, LOS ANGELES, CAL.

The wisdom of the proverb "Well begun is half-done" is of comforting significance for us today. Our able and distinguished president, Miss Gill, has laid solid foundations, and laid them wide and deep. Under her expert leadership this new Department of School Patrons has found a place of sympathy and esteem in the National Education Association family. A policy of prudence has been established, of seeking and following scholarly standards, of regard for constituted authorities, of impersonal striving for results. Notable among her wise provisions is her plan of department work during this convention, in accordance with which our members have attended various general and department meetings, and have brought to our Round-Table Conferences reports of instruction given by National Education Association speakers concerning matters especially needing home and community co-operation. These reports will afford us systematically the means of carrying out our one fixed policy, the one article of our creed, which is to advocate and aid only such educational undertakings as are desired by the school authorities themselves.

Frequently, in this convention, we have heard it said: "All educational reforms have begun at the top and worked downward." From what we have heard "at the top" it would seem that the educational millenium would indeed be at hand if we could get done everywhere all the good things that are advocated and reported as successfully done somewhere.

Unfortunately we hear also many expressions of concern because the movement "from the top downward" seems painfully slow.

For instance, a high officer of the National Education Association said last year (p. 412 of the volume of *Proceedings*, 1909):

> In theory the school system has changed so as to meet these conditions, in part at least. In point of fact there is no one of our human institutions but has undergone a greater and more far-reaching change than has the school. It is true that certain schools have struck an entirely "new gait." . . . . For the most part, however, and among the rank and file the country over, the practices of today are quite similar to those in vogue in the times of our fathers.

Repeatedly this week we have heard the wish that teachers had more time and strength so that they might arouse increased public interest in some vitally needed work. It is just here that we should help. The Department of School Patrons, working thru strong existing organizations in every community in the country, can arouse widespread public interest and support for these noble and urgently needed educational undertakings. They can greatly increase the speed with which the progressive movement passes from the National Education Association mountain-top to the valley and the plains.

There are, then, for the coming year, these big, progressive measures that require the enlistment of public interest and support.

There is also urgent need of a simple remedy that will relieve a great many difficulties. It is the sympathetic, systematic bringing together of the parents and teachers of each group of school children. Then the medical supervisors and nurses can teach the mothers up-to-date methods in the care of their homes and their children, from cleaning teeth to breathing fresh air. Then the requirements of mental and moral hygiene can be explained. Wrong customs in matters of amusements, companionship, dress, idleness, extravagance, manners, can be changed quite readily when all the elders in a school and neighborhood group combine and quietly exert concerted influence. The source of weakness at present is the gap between the jurisdiction of parents and teachers due to undefined boundaries—a gap thru which the children fall or mischievously wriggle. Some mothers are to blame but most are genuinely perplexed. In this day of specialization the entire direction of the young has been confidently handed over to the teacher as the educational specialist. From kindergarten to college this deference is expected and given. Now, a new division of labor must be arranged on this basis, a division in which the teacher specialist directs, and the home applies.

The function of the state conference committees in all this co-operative work seems comparable to that of the famous Committees of Correspondence of Revolutionary times—tho, of course, at a respectful distance. Simple and unimpressive in numbers they nevertheless make known the needs of the cause—general, state, local. They ascertain from local school authorities the desired work; they refer this to the volunteer organization which in that locality is strongest or best adapted to the particular project. Thus they are of great service in unifying, in preventing ill-advised action, in saving duplication of effort.

We are told that the same chemical forces produce damaging rust if too slow, dangerous explosion if too fast, bright useful flame if properly controlled. So community feeling toward the school is in many places sluggish to the point of apathy or corroding criticism. In very many other places it has become so suddenly and violently ardent as to be in instant danger of explosion. By hastening or holding back, by placing under the direction of professional educational policies, we hope to do away with both rust and explosion and have everywhere a steady, useful flame of enthusiasm and co-operation with the public school.

DEPARTMENT OF RURAL AND AGRICULTURAL EDUCATION

SECRETARY'S MINUTES

OFFICERS

President—KENYON L. BUTTERFIELD, president Massachusetts Agricultural College...Amherst, Mass.
Vice-President—CHARLES A. LORY, president Colorado Agricultural College.....Fort Collins, Colo.
Secretary—E. E. BALCOMB, State Normal School.....Providence, R.I.

FIRST SESSION—TUESDAY FORENOON, JULY 5, 1910

The meeting was called to order in Jacob Sleeper Hall, Boston University, Boston, Mass. President Kenyon L. Butterfield opened the meeting by some appropriate remarks.

The regular program was then taken up as follows:

Topic: "The Problem of Field Laboratory Work, to Accompany Courses in Agriculture and Horticulture."

1. "Field Work Accompanying College Courses in Horticulture"— Ralph L. Watts, professor of horticulture, State College, Pa.
2. "Field Laboratory Work"—K. C. Davis, professor of soils and agronomy, Rutgers College, New Brunswick, N.J.
3. "Laboratory and Field Work in the Agricultural High School"—B. H. Crocheron, principal Agricultural High School, Baltimore county, Philopolis, Md.

Report of National Committee on Agricultural Education.

SECOND SESSION—WEDNESDAY FORENOON, JULY 6, 1910

The meeting was called to order in Jacob Sleeper Hall by President Kenyon L. Butterfield. The regular program was taken up as follows:

1. "The Place of Agriculture in the Public High School"—George F. Warren, professor of farm management and farm crops, Cornell University, Ithaca, N.Y.
2. "The Place of the Agricultural High School in the System of Public Education"—Dick J. Crosby, U.S. Department of Agriculture, Washington, D.C.

The Report of the Committee on the Course of Study in Agriculture was made by E. C. Bishop, state superintendent of public instruction, Lincoln, Nebr.

He explained that the committee had been working hard since the Denver meeting but that, owing to the amount of work to be accomplished and the difficulties in the way, it was impossible to present a complete report. He submitted a preliminary report and asked that the number on the committee be increased, and the committee gave them until next year to complete their report.

President Butterfield suggested that the Committee on Nominations should add two more names to this committee, making a committee of five. The Committee on Nominations reported as follows:

For *President*—James A. Barr, superintendent of schools, Stockton, Cal.
For *Vice-President*—B. M. Davis, professor of natural history, Miami University, Oxford, Ohio.
For *Secretary*—E. E. Balcomb, State Normal School, Providence, R.I.

A motion was made that the report of the committee be adopted. The motion was carried and the appointees were declared elected.

The committee also recommended Professor F. W. Howe, of the United States Department of Agriculture, and B. M. Davis, professor of natural history, Miami University,

Oxford, Ohio, as additional members of the committee on "The Course of Study in Agriculture."

On motion, duly seconded, the recommendation was adopted.

THIRD SESSION—THURSDAY FORENOON, JULY 7, 1910

The meeting Thursday morning was a joint session with the Departments of Secondary Education and Science Instruction. The report of this meeting will be found included in the minutes of this joint meeting as reported by the secretary of the Department of Secondary Education.

E. E. BALCOMB, *Secretary*

PAPERS AND DISCUSSIONS

FIELD LABORATORY WORK ACCOMPANYING COLLEGE COURSES IN HORTICULTURE

RALPH L. WATTS, PROFESSOR OF HORTICULTURE, STATE COLLEGE, PA.

The function of our college courses in agriculture and horticulture is to train teachers, investigators, demonstrators, farmers, farm managers, orchardists, and gardeners. Each of these vocations requires technical as well as practical training. A purely technical man may impart information by pen or lecture but he can never be a great industrial teacher. If he seeks employment as a field investigator, practical knowledge and experience are required to conceive, plan, and carry out his experiments. It is absurd to think of a man entering any of the other vocations named without practical training.

It may be argued here that the majority of our college students pursuing courses in agriculture and horticulture have had practical farm experience before entering college. While this is true and there is no question about the value of such experience, the purpose of college field laboratory work is to go far beyond the practice and methods of most farms. Moreover, we must not lose sight of the fact that the percentage of city students pursuing such courses is increasing rapidly and that in most cases these students have had no practical farm experience whatever before entering college.

Field laboratory work, tho, is a means to an end and not the end. It is part of the process by which we should obtain definite, positive, educational results. It is an essential factor in the training of experts in agriculture and horticulture.

Laboratory work goes beyond and supplements classroom work. In the classroom the instructor imparts information by lecturing, demonstrating, or drilling. In the field the knowledge is acquired more perfectly by the student in observing or actually doing the work discussed in the classroom. Field work makes questions clear which may not be understood in the classroom. Time and again students have told me that various practicum exercises had given them a much better understanding of the whole subject.

Students should know the best methods. It is often difficult to teach correct methods in the classroom, while it is a simple problem in the field laboratory.

When a fact is stated in the classroom it should make an impression on the student's mind but there is no assurance that it will be remembered. If this knowledge is applied in the field laboratory, it is fixed in the student's mind and becomes a part of him.

In field laboratory work the student develops confidence in his own ability. Without such confidence, he is not prepared to engage in work requiring the application of knowledge obtained in the various courses. Last winter, a student from Philadelphia took a course in greenhouse vegetable forcing. It was his first experience in growing crops under glass. He had the full responsibility of caring for a plat of lettuce and radishes and this necessitated a visit to the greenhouse every day. An experienced greenhouse grower could scarcely have done better. At the end of the semester, the student told his instructor that he thought he could run a greenhouse. Confidence was one of the rewards of this experience, and yet mistakes would doubtless occur should our young friend become a greenhouse grower. Two other young men told me this spring that they were seriously considering renting a farm and engaging in market gardening. Confidence in their ability which had been inspired by the experience gained in planning, planting, and cultivating a small vegetable garden on the college farm led to this consideration.

Field laboratory work, when properly directed, develops originality. In many lines the instructions for field work should not be too definite. The student should not be restricted more than necessary, but he should be encouraged to find new or improved methods. Several unique methods of intercropping have been developed by the students in market gardening at the Pennsylvania State College.

Field work when properly handled develops enthusiasm. Students may tire of classroom methods but real work in the field puts life into the course and enthusiasm is bound to grow. This spring two girls, juniors in home vegetable gardening, were engaged in their second field practicum. The work was transplanting cabbage, lettuce, and Swiss chard in their own assigned plats. The day was not at all pleasant and it was the first experience for both girls in field transplanting. Their hands and skirts soon showed the effects of the soil in which they were working and it is not surprising, therefore, that one of the girls said in a whisper, audible, but not intended for her instructor, "I don't like this work one bit, do you?" Her classmate answered with an emphatic "No." Both girls, however, became enthusiastic gardeners. A number of times they arose very early in the morning in order to find time to give their plats the necessary care. All but one member of this class, a non-resident, requested the privilege of caring for their own gardens during the summer vacation. Nothing

will contribute to the enthusiasm of the student more than properly directed practicum work.

Field laboratory work has many other values. It presents problems for solution which require foresight, reasoning, and the best judgment. Neatness and exactness are essential to high-class grades and the student is so informed when field work begins. Satisfactory grades in some lines of work cannot be secured without almost daily attention, and this is a most valuable factor in the training of many students.

From what has been said it will be readily seen that field laboratory work is a test or an examination. By it the instructor is able to judge quite accurately as to the student's ability. He finds out whether the student has caught the essential points in the lectures delivered; whether he is quick, neat, accurate, prompt, industrious, and faithful, and whether he knows how to apply principles to practice.

Field practicums accompanying college courses in horticulture may be classified in the following manner:

1. Resident work:
   - *a*) Craft work.
   - *b*) Observation work.
   - *c*) Vocational work.

2. Non-resident work:
   - *a*) Farm experience.
   - *b*) Inspection trips.
   - *c*) Survey work.

1. RESIDENT WORK

To make this work most valuable there must be no lack of facilities or equipment. There must be land, manures, fertilizers, horses, tools, greenhouses, hotbeds, cold frames, orchards, vineyards, market gardens, small fruit plantations, nurseries, flower gardens, and campus materials. The instructors must be the best. They must have thoro technical as well as practical training. Don't suppose for a moment that you must have high-salaried lecturers for the classroom and cheap men for the field laboratory. If second-rate instructors must be employed put them in the classroom and the better-paid men in the field. If possible, however, have the same instructor in charge of both recitation and field work.

a). *Craft Work*

This is the most common form of field laboratory work in horticulture and its importance cannot be emphasized too much. It consists of such operations as sowing seeds, transplanting, grafting, budding, pruning, spraying, thinning, grading, packing, laying out fruit plantations, and a large number of other exercises of importance in the training of horticulturists.

b). *Observation Work*

There is a broad field for this line of work. The student may or may not be accompanied by the instructor. Orchards on the college farm or in the vicinity may be visited with definite purposes. An outline furnished each student of points to be observed will make such trips more valuable. If a number of soil types can be easily reached, a study of varietal adaptation

makes an interesting practicum. In this connection the student should be expected to pick out the best fruit or truck farm in the vicinity and prepare plans for planting and managing it. Such lines of work call for the application of many of the principles discussed in the classroom. There is almost no limit to the amount of observation work that may be conducted in orchards, vineyards, small fruit plantations, nurseries, flower gardens, greenhouses, parks, and lawns. Character and habit of growth, hardiness, yields, and quality with the various horticultural crops form an unlimited field for study.

c). Vocational Work

This line of work places the student on his own responsibility. "Swim or sink" is the principle involved. The advanced student in the shop is told to build an engine or a motor. He must plan his work and work his plan. In horticulture, he is told to make a vegetable garden, a flower garden, or a nursery. It is assumed that he has had or is taking a course of lectures covering these subjects. The instructor then is fully justified in putting him on his own resources. This is absolutely essential to the highest development of the student. He is simply informed that Plat No. 10 belongs to him and that he is expected to fertilize, plant, and care for it while the course is in progress. This plan had been tested thoroly at the Pennsylvania State College and too much cannot be said in its favor. There were forty-three students in market gardening during the second semester of 1909–10. Each student was informed early in the semester that he would be expected to farm a plat thirteen by forty-five feet in size. A larger area might be assigned but we have found the results better when we look for quality rather than quantity in work performed. Each student understands that he can plant whatever he wishes, but that it is purely a market gardening proposition and that cropping-plan, yield, quality, appearance, and probable financial returns are the factors taken into account in making up grades. He is furnished space in the greenhouse, hotbed, and cold frame, and given access to stable manures, fertilizers, hoes, rakes, garden line, tapes, trowels, weeders, drills, and cultivators. He makes his own plans, sows seeds in the greenhouse, transplants at the proper time, visits the greenhouse daily to see if seed-bed or plants need water or other attention. Later, the plants are placed in the cold frame, attended daily, and then set in the field when conditions are right. Such a scheme calls for the constant exercise of judgment. Is it time to sow, to transplant, or to set in the field? Are water or tillage needed? Will it pay to use flats, earthen pots, or paper pots? Can nitrate of soda be used to advantage? A multitude of questions come up which the student must settle. They require frequent consultation of text, lecture, or perhaps instructor. The whole scheme works admirably and accomplishes far more than is possible with craft or exercise work only. The same plan has been used at the Pennsylvania State College in vegetable forcing and with just as great

success. With new greenhouses now in course of erection the work will be enlarged and extended to floriculture and with better laboratory facilities nursery work can also be improved. These various lines are commercialized as much as conditions will permit.

2. NON-RESIDENT WORK

Non-resident work is not required in most of our college courses but it is well worth the consideration of teachers of horticulture.

a). Farm Experience

In the universities of Europe, practical farm experience is a requirement for graduation. Students must have it before degrees are granted in agricultural courses. Such experience is often gained before entering college, and if not, it must be secured during vacation periods. Is not such training just as important in this country? What right have we to grant diplomas to boys who don't know how to harness a horse, adjust check lines, run a mower, reaper, or manure spreader, or plow a field properly? It is important that such experiences be acquired on the best farms of the country. Students in horticulture should be urged to spend their summers working for orchardists, market gardeners, nurserymen, or florists.

b). Inspection Trips

Inspection trips should be taken from time to time. The frequency and duration of such trips will depend primarily on the location of the college. If located near horticultural centers the trips may be frequent and vary from one to three or four days. If, on the other hand, the college is remote from such centers, it is economy to make the trips once or twice a year and probably take not less than a week for each itinerary. The industries inspected should be as varied as possible. A party of twenty-five students from the Pennsylvania State College with two instructors, one in soils and the other in horticulture, took a trip in May of this year. The first day was spent in studying intensive market gardening in North and South Philadelphia, closing the day by inspecting the Reading Terminal Storage Plant and the Reading Terminal Market. The second day was spent in New Jersey inspecting orchards, a fruit-storage house, and the culture of asparagus, sweet potatoes, tomatoes, and many other vegetables. The third day was devoted to an investigation of nurseries, mushrooms, and various greenhouse crops at Kennett Square, and roses at West Grove, Pennsylvania. The fourth day was spent in studying vegetable farming on the Patapsco Neck near Baltimore, Md. The party went by boat to Norfolk and remained there two days studying the varied industries of that great region. Another day was spent at our national Capitol, where the students met Secretary James Wilson and other prominent officials of the Department of Agriculture and got a glimpse of the work being done at Washington for the farmers of the country. It was a splendid trip and

gave the students a broader conception of the great horticultural industries of the East, to say nothing of the practical information acquired.

c). Survey Work

Written instructions and information blanks are furnished the student by the department in which the work is done. The student is sent to a district where there is some prominent horticultural industry. In Pennsylvania, it may be the vineyards of Erie County, the apple orchards of Adams County, the peach orchards of Franklin County, or the greenhouses or market gardens of Philadelphia County. The student goes from place to place filling out the printed forms. About ten days are spent in this survey work. Information is thus procured on soils, crop and variety adaptation, varieties, fertilizers, methods of pruning, training, spraying, grading, packing, marketing, and insect and fungous enemies. Several days are then spent in tabulating the results and in putting the matter in typewritten form. Conclusions are drawn and comments made on the various methods employed. Practicum work of this nature is exceedingly valuable. It brings the student into close contact with the producer. It connects him with the outside horticultural world. It teaches him to discriminate between good and bad farming, and he will be less liable to make blunders himself when engaged in, or directing others in, similar lines of work. Survey work should be done at the end of the junior year and it should be in the field for which the student has the greatest natural bent or inclination. Such practicum work is the best possible preparation for the closing year of his college course.

FIELD LABORATORY WORK

K. C. DAVIS, PROFESSOR OF SOILS AND AGRONOMY, RUTGERS COLLEGE, BRUNSWICK, N.J.

Those engaged in the teaching of agriculture and horticulture all realize to a greater or less extent the value and importance of laboratory work.

Field exercises are particularly helpful in bringing out the truths of the lessons being taught. There are more kinds of field exercises which lend themselves to the teaching of agriculture than have been found for the teaching of any other subject, not excepting geology, physical geography, botany, zoölogy, or any of the common sciences. This is partly true because these sciences are fundamental to the broadest understanding of agriculture. But aside from that, there are countless exercises which must be taken outside the schoolroom and which have a most direct bearing on agriculture.

Exercises of this character may fall into one of the following groups:

1. Those which deal with soils, as soil-formation, soil-movements, true soil-sampling, soil-depths, soil-textures, effects of lime and other amendments.

2. Those which deal with plants, as classes of plants useful in special ways, including legumes; plants found where soils are very sour; plant life indicating very deep rich soil

or very poor shallow soil; crops used as winter soil covers, or as catch crops, or as long-season crops; adaptation of various grasses to the special agricultural uses; seasonal developments of all fruit-producing plants, as formation of buds, fruit spurs, and preparation for winter; blossoming dates of different varieties; struggles in natural selection and competition, as in a tree-top; adaptation to environment; weeds of a perennial nature and where found; where annuals are most troublesome.

3. Those which deal with animal life; as the study of poultry and its management; the types and breeds of larger farm animals; care of animals; judging stock of all types; injuries due to insects; collection of insect specimens; study of birds in their relation to agriculture.

4. Those which deal with machines, tools, devices, and buildings; as the construction of barns, silos, milk-houses, poultry-houses, and piggeries; the plans for and installation of field drains, house and barn drains; cesspools, septic tanks, and water systems; the adaptability of the different forms of power to the farm needs; the special advantages of the different farm tools and machines for the care of soils, crops, stock, and the fighting of insects and diseases; grafting, budding, pruning, transplanting.

There are other categories into which some special exercises might fall.

The equipment for field exercises will depend entirely upon the surroundings of the school. In a farming or gardening section, the equipment is already provided. In a number of agricultural schools a few acres of land have proved to be sufficient. Here crops are raised on a small scale. Poultry and hogs are kept. Cows may be maintained under the soiling system, or near-by animals may serve the purpose of class exercises.

In a certain agricultural school now well established, students are given hundreds of exercises in field laboratory work elsewhere than on their own school farm.

Students are taken in carry-alls to neighboring orchards where they practice pruning or grafting. There they study the various orchard insects and diseases, and try in a practical way spraying and other methods of combating the natural orchard enemies. On another occasion a farmer's place is visited to inspect the plans for furnishing water under pressure from an elevation or from a pneumatic tank to the farmhouse and barn. A lesson is made of the cost of material and labor in providing such a water system. The labor saved in one year and in five years is estimated. The possibility as to clean walls, ceiling, and floors in barns and milk-houses, clean buggies, handy bathrooms and toilets, fresh water at all times for stock and people—all these and other advantages are brought strongly to the minds of these young farmer boys, who realize how easily and cheaply they can supply their own places with these conveniences. Who shall say that this does not help to keep these boys on their farms?

Several days each winter are spent in testing cattle for tuberculosis. Students go with a competent instructor to a neighboring herd. There they are divided into small squads; and with a leader for each squad who has had some experience before, temperatures are taken for several hours. Records are carefully kept and the injections made in time to return home before bedtime. The owner of the herd has learned to take the morning

temperatures or a few students are sent to take them. The class and instructor will chart the curves for each animal and make careful study of the results.

Scoring dairy barns and dairy herds producing milk for city use is a very profitable exercise. The best are scored first to establish high standards in students' minds. Stock-judging and milk-sampling exercises may be given in connection with the trips for scoring.

Most of the above exercises may be classed as short-time field exercises. Besides these, there are a host of others requiring a season or more. I can here merely mention a few: Testing and improving corn by the ear-row method. Selecting and improving potatoes by the hill-row method. Pollenizing work, and other forms of plant breeding and selection. Rotation and fertilizer experiments, and variety tests. Effects of various cover crops. Trials of new crops which should be grown more in the neighborhood.

Time forbids the elaboration of these exercises here.

LABORATORY AND FIELD WORK IN THE AGRICULTURAL HIGH SCHOOL

B. H. CROCHERON, PRINCIPAL, AGRICULTURAL HIGH SCHOOL OF BALTIMORE COUNTY, PHILOPOLIS, MD.

The problem of field and laboratory work as encountered in the agricultural high school seems to center about four main difficulties: First, lack of information published concerning the best exercises; second, materials with which to present these exercises; third, time in which to prepare exercises for presentation; fourth, difficulty in preserving the proper sequence so as to articulate with the textbook work.

The first difficulty, knowledge of actual exercises, at first appears to be the most serious. If we take even a cursory glance at the practicums presented with textbooks, the bulletins and pamphlets sent out by governmental institutions, and the so-called "laboratory guides" published for rural, common, and high schools, we notice at once that there is a pitiful lack of actual outlined exercises with which to work. One finds the same few exercises repeated again and again usually with the same copied illustrations. Taking the entire collection of good and bad exercises in agriculture thus far prepared and analyzing them carefully with a view to putting them into actual careful application, there is found to be a tremendous dearth of real outlined lessons. An observer is forced to one of two conclusions: either that there is little opportunity for good laboratory work, or that there has as yet been little study put on the main problem of a clear, concise, and logical series of laboratory guides sufficient to cover a course of four years in an agricultural high school.

The second difficulty, materials, is not peculiar to an agricultural

high school. The problem is, however, more acute there than elsewhere because as a vocational school it must have actual *bona fide* materials with which to work and as a high school these materials must necessarily be of moderate cost. A well-equipped laboratory with gas and running water seems to me to be needed for a really thoro course in agriculture. The makeshifts used by some schools are never more than a very deficient substitute for materials. I am aware that some authorities give directions for using a coal shovel and the school stove to test soils, home-made balances to weigh them, and tin cans in which to test their manurial requirements. It looks possible that such materials as these may be used in some few exercises but I am not aware that they have ever been used with any very great degree of success. Indeed, I am inclined to feel that one of the reasons agricultural laboratory exercises are so meager and inadequate is that writers have been searching to use coal shovels and tin cans while they feared to face the actual fact, namely, that agriculture in common with all applied science cannot be well taught without an equipment comparable with that required to teach chemistry, physics, or mechanics.

The third difficulty, time to prepare exercises, will perhaps in the end prove the most serious of all. Ultimately someone will outline a complete set of good laboratory exercises and many, if not all, of our schools will obtain a sufficient equipment to do adequate work. But never will there be more hours in the day than now nor is it probable that the labors of the high-school teacher will lessen. The solution is, of course, that the agricultural teacher in the high school, who is usually also the teacher of science, prepares his laboratory material and exercises at the school in late afternoons or at night in order to get the work well done. This, perhaps, is a fairly good solution except that it is rather hard on the agricultural teacher. The trouble, however, is encountered where the element of human frailty comes in: the teacher becomes tired, discouraged, or is merely lazy, the work at night and late afternoons is neglected, and the school suffers. The difficulty can be overcome only by securing agricultural teachers who become less tired, less discouraged, and less lazy, or else by lightening the burden of a teacher who is expected to carry all the work in agriculture and all sciences.

The fourth difficulty, of opportuneness of exercises so as to conform to the textbook course, is one that is at least as serious in the agricultural college as in the agricultural high school. Those of us who have taken somewhat recent agricultural courses recall that we seldom studied in our textbooks or lectures the work that was then going on in the laboratory. We were doing, in the laboratory or field, work which to us was often incomprehensible but which later became clearer when we studied the subject in class. This is as often true in the high school as in the college, and since agricultural instruction in colleges has become settled and suc-

cessful we may infer that this last difficulty is not one which will seriously jeopardize the ultimate success of the agricultural-high-school instruction. The difficulty will continue as long as schools are in session during the winter months and close their doors during the summer. So long as the growing season among plants is not the teaching season among agriculturists so long will the difficulties of theoretical and laboratory presentation continue to hamper the agricultural teacher.

Perhaps the greatest outlook for better field work in agricultural schools is thru the keen interest which may be created in the neighborhood. It is the people of the community who will in the end determine the ultimate destiny of the school. Its success or failure is to a very great degree dependent upon their attitude of mind and of property. Where an agricultural school must depend entirely on its own land and live-stock it can develop its field work to but a minimum degree, but if it can so interest and co-operate with the people that the whole community becomes the field and laboratory of the school, then its work takes on a new impetus and has possibilities of enormous enlargement.

In Baltimore county we are developing this community interest and activity in the school both as a means to help the school and as a means to help the people. The community work of the rural or agricultural high school has a direct bearing on its field and laboratory work just as the field and laboratory work is, after all, designed for the immediate betterment of that community. Altho departing somewhat from the direct significance of our subject this morning I have been asked to tell a little about the community work which the Agricultural High School of Baltimore county is doing because of this bearing which it has on our laboratory work.

When the school first started, but nine months ago, it was decided as a definite part of its policy that to attain its full mission it must offer educational facilities for every class of persons in the community—men, women, and children. Situated as it is, out in the open country, away from a town or village, surrounded by farms and homesteads, it offered a remarkable opportunity for school development entirely for farmers and their families. The school is but a small affair with but five classrooms, three laboratories, and but two resident teachers in the high-school department, yet it went to work on its way to overcome the prejudices of a century and revolutionize the agriculture of a whole county.

Before the school opened a great list of persons in the county was made. The list was compiled from poll-lists of voters, subscription lists of the county papers, memberships of agricultural clubs and granges, account books of physicians and lawyers, and many other sources. When this list was made up into a cross-referenced card index a very valuable fund of information was obtainable about almost anyone of consequence in the county. The dedication of the new building was turned over to two farm clubs—one of women, the other of men—and three thousand personal

invitations were sent out for the dedicatory exercises. The school printed posters telling what it had to offer and these were nailed up on fences, blacksmith shops, and post-offices. The community work started almost as soon as the regular classes. A literary society was formed for young people too old to go to school. A hundred are members paying dues and attending meetings every two weeks where debates, spelling bees, and other so-called literary exercises are held. The farm women meet at the school one Saturday afternoon a month to get instruction. The school wagons travel along the regular routes and bring these women from their homes. The attendance ranges from seventy-five to a hundred. After general exercises and an address by some well-known personage, the women divide into self-selected groups and take a lesson in cooking, carpentry, home crafts (such as basketry, rug-weaving, and chair-caning), or in modern literature. The women do not attend a demonstration but do the work themselves. They do things. It is the same type of instruction that we give to the children. The men of the families were last winter given a course of ten evening lectures on soils and fertilizers which were accompanied by some of the usual experiments in soil physics. One evening lecture a week was given for ten weeks. At first the people came by dozens, later by hundreds. The attendance averaged for the entire course, good and bad weather together, one hundred and twenty-five at each lecture. After the close of the lecture course a corn congress was held for two days which about a thousand persons attended. Fifteen hundred ears of corn were exhibited by farmers of the county, agricultural clubs, rural schools, and our high-school pupils. Twelve speakers from the national Department of Agriculture and the state experiment station held forth at six sessions: morning, afternoon, and evening for two days. Meetings were held for men and others for children on how to grow and select corn, while others were held for women on how to cook corn and corn products. During the fall and winter all-day meetings on occasional Saturdays were held for rural-school teachers at which they were given instruction in agriculture, nature study, and allied topics. The work was performed in the school laboratory and the teachers themselves went thru a lesson which they were to repeat before their classes in their own schools. Because of transportation difficulties the meetings did not reach all the rural teachers and were discontinued. Another plan will be inaugurated next year. The school tests seeds, milk, and fertilizers for farmers and was kept busy last spring in this work alone. As a direct result of this testing work of the school the farmers are building a creamery near by and have already formed a cow-testing association. This summer the school is conducting experiments on the home farms of its pupils. Every boy in the high school performs an experiment of his own selection during the summer. Variety tests of corn, variety tests of cowpeas, alfalfa fields, and milk-weighing records are proceeding. The experiments are scattered over a territory twenty-

five miles long by five miles broad. They are under constant supervision from the school. Up on the steep hillsides of northern Maryland many an acre patch of corn is being carefully tended by a high-school boy under the watchful eye of all the neighborhood.

The agricultural high school must meet the people by popular work with them for their immediate betterment. So will the agricultural high school become better itself thru the aid and co-operation of its thousands of neighbors on a thousand farms.

DISCUSSION

John J. Dargan, principal of the General Sumpter Memorial Academy, Sumpter County, S.C.—When we undertook this work we bought a place for a school proper and a home for the principal. Both of these were farms, and adjoining each other. The home place of the principal was as much a part of the school equipment as the school building itself. I then went to Dr. Seaman A. Knapp at Washington and got him to give us a "demonstration farm" to be operated in connection with the school which was a classical and literary institution. We have not changed the school in any particular whatever, except so far as we have added the agricultural feature. When this work was begun we had but one boy in the school who thought of taking agriculture as his avocation; but when the first class graduated there this year, there were five boys and two girls. All the five boys are now determined to adopt farming, and one of the two girls poultry-raising. They seem to have fallen completely in love with and take pride and delight in all work connected with the farm. The boys plow, gather grain, clear up new ground, cutting down, sawing off, and splitting up timber, and preparing the land for cultivation, and they have done some ditching. Almost all this work is entirely voluntary. They receive for it ten cents an hour. There is not one of these boys who could not go to any college in our state, that is, they have the pecuniary means to go to any institution they please. We think that the result of which I am telling has come about in large measure by the excellent instruction in the schoolroom of the science of agriculture by the teacher sent us by the National Agriculture Department and its application in field and forest.

The boys are told continually of the proud characters in history, from the earliest time to the present day, who were farmers. To mention a very few of them, leaving out the ancients entirely: George Washington, Thomas Jefferson, James Madison; and in England, John Hampden and Oliver Cromwell; with a whole host of others whose names are as familiar to them now as household words, who have done enduring service to the human race and won an immortal place in history. Standing in the group of such characters as these, how can they be ashamed of farming? They are proud of it, and proud of doing any work necessary to make it a success in their lives.

The home of the principal is so conditioned and conducted that they may see what pleasant and healthy food can be gotten from the farm; what good cooking can be done by farmers' wives and daughters, who are at the same time literary women and musicians of no mean attainments. These boys attend literary clubs, write essays on poetry, history, etc., and take part in the musical programs of the school as violinists, pianists, and vocalists, according to their respective talents. We intend that the world shall see boys not ashamed to handle pitchforks and axes, who can handle the bow of the violin or the pen with great skill and charm, and a boy whose voice has been cultivated will find that there is no detriment to it by the open-air work of the fields.

REPORT OF THE NATIONAL COMMITTEE ON AGRICULTURAL EDUCATION

READ BY E. E. BALCOMB, SECRETARY

The National Committee on Agricultural Education met in the Palm Room of the Claypool Hotel, at Indianapolis, Ind., on February 28, at 8 P.M. President H. H. Seerley presided. He made some appropriate remarks concerning the history and origin of the National Committee and the work that it had already accomplished. He said that the year had been a very active one and that the outlook for legislation was very promising. At this meeting the committee was reorganized and the vacancies were filled. A special committee was appointed to wait on President Taft and appear before the Senate Committee on Agriculture and Forestry. The committee was composed of Secretary E. E. Balcomb, of Rhode Island; President Thomas D. Miller, of West Virginia, and State Superintendent Stephens, of Maryland. A very instructive general meeting was held in which the following program was carried out:

An address on "The Training of Teachers for Our Schools with Special Reference to Agriculture," by Walter E. Ranger, commissioner of education, Providence, R.I.

A report of a committee on "College Credit on Agricultural Education" by Professor A. B. Graham, University of Ohio, Columbus, Ohio.

President Seerley reported on the progress of the Dolliver-Davis Bill for the aid of agricultural instruction which was being pushed in Congress.

Professor Fred L. Charles, of the State University of Illinois, gave an address on "The Next Step in Agricultural Education."

State Superintendent E. C. Bishop, of Lincoln, Nebr., gave a preliminary report as chairman of a committee on "A Course of Study in Agriculture."

This was followed by a general discussion participated in by President David Felmley, of Normal, Ill.; Dr. Frank M Murray, of Columbia University; Professor Josiah Mayne, of Urbana, Ill.; Dr. B. M. Davis, of Miami University, Oxford, Ohio; President John W. Cook, of De Kalb, Ill.; and Professor Eugene M. Phillips, superintendent of city schools, Albert Lea, Minn.

At this same meeting President Seerley announced that he had sent out a call to all normal-school presidents with the object of ascertaining their views with regard to having a meeting of the normal-school departments with the meeting of superintendents, as well as at the regular summer session of the National Education Association.

AGRICULTURE IN THE PUBLIC SCHOOL SYSTEM

I. THE PLACE OF AGRICULTURE IN THE PUBLIC HIGH SCHOOLS

GEORGE F. WARREN, PROFESSOR OF FARM MANAGEMENT AND FARM CROPS, CORNELL UNIVERSITY, ITHACA, N.Y.

The greatest problem in American education is vocational training. The schools do not now serve all the people. They must be made to do so.

Every person should have three educations. He should be vocationally trained, liberally trained, and every person should do some useful manual labor.

It is no longer sufficient that a student "Learn things that he is not going to use in after life, by methods that he is going to use." A part of the education of every person should consist of learning things that he is going to use by methods that he will also use.

I will not spend any time in discussing the relative merits of vocational and liberal education. To debate this question is much like discussing

the old debate questions: *Resolved*, That fire is more useful than water, or, That sight is more useful than hearing. In each case both are necessary. Every man should do useful work in the world and should be trained for that work. Every man should spend some time in intellectual recreation, and should be trained to make the most of this leisure.

What is vocational for one person is liberal for another. To a minister, a knowledge of scientific agriculture contributes to a liberal education, while the kind of education given by our high schools is technical. To the farmer the places of the subjects are reversed.

What is more technical, or narrow, or distinctly a trade education than the education that ministers, teachers, and doctors now receive? We have come to speak of the particular trade-subjects taught by the old-line high school as liberal studies. But they are also trade-subjects preparing for teaching and some other occupations. History is a trade subject to the teacher in history, just as much as cooking is to a chef. Boys who have red blood in their veins refuse to spend all their time on the other fellow's trade subject. They are anxious to be doing a man's work in the world. To a considerable extent our high-school courses have attracted those who were seeking an education in order to avoid work.

Formerly nearly all children learned to do manual labor. Nearly all farm children still learn to do it. Now many children are as much in need of an opportunity to do useful manual labor as others are of laws to stop child labor. If every teacher, every preacher, and every politician did some useful manual labor, there would be fewer boys leave school, fewer empty churches, fewer graft prosecutions.

HOW MUCH EDUCATION DOES A LABORER NEED?

Many persons do not believe that a laborer needs education. Men used to say that reading and writing were not necessary for a laborer. Now we grant him a common school course but doubt the value of high school work. The economy of educating men can never be measured by their occupations. There is no occupation that does not offer unlimited opportunities for the use of brains. The only limit of education should be the capacity of the individual, not his proposed occupation.

Last summer I rode a few miles on a canal-boat load of coal that was going to Washington, and talked with the "Captain." He had been driving a canal boat some fourteen years as near as he could "reckon," and was yet a boy. All this time he had been going over the same 180 miles and has seen the canal-boat business decreasing year by year. He had a good mind but no schooling. I asked him what the charge was per ton for hauling. He did not know. What did the railroad with which he competed charge? He did not know. His interest was in changing the mules and in seeing the old landmarks as he passed.

I contrast this with a boy who had taken a short winter course in agri-

culture and whom I had just seen on a farm. When he sows oats he is thinking of the variety, the rate of seeding, the depth of seeding, and how the plant readjusts itself if sown too deeply, the amount of fertilizer that is being put on, how much it costs, how much is saved by home mixing, how much the labor of sowing is worth. He is alert and happy because he is living. To think is to live.

No class of our citizens has more leisure than industrial laborers. They should have a liberal as well as a vocational training in order that they may make the most of this leisure.

In our farm-management investigations at Cornell University, we have incidentally secured some very emphatic figures on the value of high-school education for farmers. In this work we have visited all the farms in a number of townships and have secured figures that give the farmer's labor income. By this we mean the amount that he earned as a result of his year's labor. If we subtract the business expenses from the receipts and correct for any change in inventory, we secure what we call the farm income. But the farmer and his capital were both employed; therefore, we subtract interest on his capital at 5 per cent. in order to see what the farmer made. If more than one member of the family worked, the value of the additional unpaid labor is also subtracted. We then have the amount that the farmer made as a result of his own labor. The primary purpose of this work is to study the effect of methods of farming and other factors on profits. Incidentally we ask each farmer the highest school that he has attended. When these results were compared in four townships we find:

Number of farmers who have attended district school only	622
Number who have attended a high school or equivalent	223
Number who have attended a college or university	14

We secured figures that enable us to calculate the labor income for 573 of these men. The results are as follows:

	Number of farmers	Average labor income
Attended district school only	398	$318
Attended high school or equivalent	165	622
Attended college or university	10	847

The question at once arises as to whether the high-school men did not have better farm opportunities. To eliminate any such differences the farms were arranged in equal capital groups.

Capital	Average labor income of farmers with district-school education	Average labor income of farmers with more than district-school education
$2,000 and under	$187	$286
2,001– 4,000	241	275
4,001– 6,000	398	466
6,001– 8,000	395	709
8,001–10,000	618	796
10,001–15,000	525	1,091
Over–15,000	1,054	1,272

From this table we see that in every group the men with the better education were able to use their capital more effectively. From the first table we see that there is a difference of $304 per year greater wages, or labor income, for the men who have attended high schools. A high school education is worth more to these farmers than an endowment of $6,000 in 5 per cent. bonds.

We still have one factor of possible difference. The men who went to the high schools may have had the more native ability at birth. This is probably true, but to us who know the men the differences do not appear to be very great.

THE OBJECT IN TEACHING AGRICULTURE IN HIGH SCHOOLS

We are told that we must teach agriculture in order to keep the boys on the farms. At the same time we are told that farming does not pay. If the laws of economics apply we must have too many farmers—if farming does not pay. During the past generation we have certainly had too many farmers to allow farmers to make reasonable wages. Now the proportion of farmers is very much less and farming is beginning to pay. The real reason for this teaching is to train men to farm better and live better. The better we farm the fewer farmers we need.

In the times of our forefathers when farming was very poorly done, all men were farmers because one man could not raise more food than his family required. When men began to farm better, one farmer raised enough to keep two families, so one family could move to town to make machinery, clothing, pianos, and automobiles for the remaining farmer. Large cities are the result of good farming. If we so train our farmers that one man can raise as much food as four men now raise, then we will be sending men to the cities—not keeping them on the farms, and they will be needed in the cities to make the numerous articles that the more intelligent farmers demand.

During the past thirty years the area farmed per male worker has increased one-third, and the crop yields per acre have also increased.

As farmers become better educated there will be an increasing tendency for the less efficient to move to cities where they can work in factories under direction. The factories can give such close supervision that they can use men who are not qualified to make good farmers. The natural road to advancement for the rural laborer is as it should be: first a laborer, then a renter, then a farm owner. The man who is to be a hired laborer all his days is best off in the city where the closer supervision can get the most out of his smaller talent; and in return the city pays him better wages than he can secure on the farm. You have doubtless seen the failures of the numerous efforts to colonize the inefficient of the cities on farms. These efforts can rarely succeed. The farm is not the best place for the inefficient.

We often hear it stated that the agricultural high school is needed to prepare students to enter the agricultural colleges. If all the students are to go to agricultural colleges there is little need for the subject in high schools. Vocational training naturally comes in the last years of the school course. If one goes to college he needs no vocational training before entrance.

The primary object of teaching agriculture in high schools is to prepare men and women for farm life without their having to go to college. The high schools must do for the many what the agricultural colleges have done for the few.

There will be several secondary benefits. Agriculture is one of the best liberal studies for doctors, lawyers, merchants, teachers, and ministers. Probably no other subject appeals to so many persons. The interest in agriculture includes nearly all the population. A very large part of our city population, particularly of the larger cities, is coming to take the keenest interest in agricultural questions. The number of agricultural inquiries that have come to the Cornell Experiment Station from New York City within the past few years is very remarkable, but no more so than the movement for the ownership and management of farms by city men. Nearly everyone is interested in growing plants and animals, and there are some fundamental principles of this growth that every boy and girl should have an opportunity to learn, if they so desire; not that they may become farmers or farmers' wives, but for the educational training and intellectual interest in life that this knowledge brings. This training is often as desirable for those who are to live in cities as for those who are to live on farms. We never can wholly separate our interests from the soil on which we walk, and the plants and animals on which our life depends.

A study of agriculture will greatly enrich the science teaching in high schools and will prepare teachers for efficient work in the rural schools. It will be of great help to such teachers even tho they may never attempt to teach agriculture.

Perhaps a greater need for this work is that our high schools are getting out of touch with the people. The high schools in the small towns need agriculture to save them quite as much as the farmers need the work. These schools must wake up to the local needs or they will find a competing set of trade schools. If this condition ever comes the high schools will lose their support and will be living the precarious existence that the old-line academies now have.

IN WHAT SCHOOLS SHALL SECONDARY AGRICULTURE BE TAUGHT?

Two ways have been proposed for establishing this work:

1. Separate agricultural high schools.
2. Agriculture in the present high school.

It is possible that a few agricultural high schools—perhaps one in ten

counties—may be desirable, but any large number of such schools will be a misfortune.

It is very unfortunate to have agricultural students separated from those who are preparing for other occupations, just as unfortunate as it is to have lawyers or ministers trained in isolated colleges or seminaries. By studying together the natural respect is increased and their breadth of character is incomparably greater. If we are to maintain a democracy we should have all kinds of education in the same institutions.

At Cornell University agricultural students live with other students just as plain men with men. They are citizens of the state and of the university just like any other citizens. The occupation of an American ought never to be known by his speech, his dress, or his prejudices.

Men who are entering the professions need this liberalizing influence quite as much as does the farmer. They cannot sneer at farm education or farmers when they have worked in the same classes with them and have perhaps been outranked. A member of our faculty recently showed his lack of broad training by suggesting that some of our practical subjects were easier than his work. For his education I tabulated the grades of the class of 1909. His was an arts subject of the Freshman year. This class averaged 85 in his subject but the same students averaged 74 in Animal Husbandry in their Junior year. I think that his respect for agriculture is now increased.

A considerable number of students who do not expect to farm will elect agriculture as a culture subject.

It is also desirable to have many kinds of instruction in one school so that students may easily change their plans. It is desirable to allow as great freedom as possible in the choice of a profession.

If separate schools are established it will mean much duplication of buildings and teachers, as half of the studies in the agricultural course will be the regular high school subjects.

Separate schools cannot be numerous enough to be in walking or driving distance of the people. The students must leave home. This will make such education much more expensive. Everything that tends to make education expensive makes it aristocratic.

Students of high-school age ought to be at home every night. They should sleep at home.

No matter how many special schools of agriculture we may establish, we will still need agriculture in all the present high schools. Education off somewhere will never reach all the people.

BY WHOM SHALL AGRICULTURE BE TAUGHT?

A very large part of our agricultural instruction may be combined with other sciences and will serve to enrich these studies. I believe that agricultural illustrations will almost revolutionize the teaching of science, which is in danger of becoming too academic. So soon as we get a science

well systematized with definite sets of laboratory exercises, which we feel are fixed for all time, we have lost one of the most useful features about science, that is, that it studies the earth and the civilization that surrounds us—conditions that are ever changing.

While teaching capillarity in physics, the soil offers a most useful illustration. While teaching friction, such questions as the relative draft of riding and walking plows may be cited. A well-constructed riding plow will carry a man and draw easier than will a walking plow, because a third of the draft of the walking plow is due to friction on the bottom of the furrow, whereas with the riding plow the friction is placed on the axle and the axle is greased. Another illustration might be given of the reason why placing the double-tree below the tongue will enable a team to pull a heavier load than if the double-tree is high as in the case of carriages. The first thing that gives way when a horse fails to pull a load is the feet. The horse cannot stick to the ground, but if hitched low a part of the load will pull down on the back, making the horse heavier and the friction greater, and will enable the horse to pull more. This is also one of the reasons why a draft horse should be heavy.

While teaching book-keeping in rural high schools, farm accounts rather than operations involving some large city business should be used for at least a part of the illustrative material. Farm accounts are more complicated than are the accounts for city business. They would, therefore, better meet the objection that some people have to book-keeping—that it does not require sufficient mental application. Similar illustrations for these and other sciences may be multiplied indefinitely.

I know of no better ecological illustration for the botanist than the lime requirement of plants. Alfalfa may fail for lack of lime where clover thrives; clover may fail and timothy yet thrive; timothy may fail and still redtop may grow.

Since agriculture is based on all the sciences, some persons have argued that it can best be taught by having the principles presented in the separate sciences, as illustrated above, rather than by having a new subject. This argument may sound logical, but it is utterly impracticable. In the first place, our textbooks on science are now written, and we can only change them gradually. The knowledge of agriculture is rapidly increasing, which would involve the re-writing of all the science textbooks every few years. It would be a simple matter to re-write only the books on agriculture. In the second place, if all the agriculture were taught thru sciences it would require that each teacher of science should know considerable about agriculture. It will be difficult enough to secure one such teacher for each school.

I believe most thoroly in having agricultural illustrations used in the teaching of science, because the science teaching would be so much improved but we must still have a separate subject of agriculture. Agriculture is

based on many sciences just as is the science of medicine. I do not think that the time will ever come when our instruction in medicine will be given by the college teachers of zoölogy, botany, physics, and chemistry. No matter how many medical illustrations these teachers may use, we must always have separate departments and separate instruction that will correlate all the sciences into a single unit—the science of medicine. Similarly we must have the sciences correlated into the unit—agriculture.

Let us take a single illustration. How would the teaching of a crop rotation proceed if there was no special teacher of agriculture? Crops are rotated:

1. To control weeds.
2. To control insects.
3. To control fungi.
4. To keep up the humus supply.
5. To secure the benefits of growing grasses and legumes on each field.
6. For convenience in working.
7. For control of toxic substances.

Possibly the botany teacher might mention weeds, fungi, legumes, and grasses in this connection, and might even discuss toxic substances. The teacher of zoölogy might mention crop rotation as a means of controlling insects, but to have these points mentioned at various times and in a disconnected way would not teach the importance of crop rotation. All the reasons must be grouped together under this one head and considered at one time in order to bring out effectively the importance of the subject.

But more important than the reasons for rotation is the training in the planning of a cropping system. After having studied the reasons, the class should take up a particular farm and plan a cropping system for it.

PLACE OF AGRICULTURE IN THE HIGH-SCHOOL COURSE

One or more years of agriculture can be taught in a high school just as algebra is now taught. It will naturally replace foreign language. I know that this sentence will arouse the fury of some of our live teachers of the dead languages, but I beg them to remember that this does not mean fewer students in language, but means that many bright boys who refuse to take the present course will be held in school. I know of a teacher of Greek in a great university who says that there are only seventy real university students in the institution because only seventy take Greek. He forgets that if all the students were required to take Greek there would probably not be seventy in the institution.

Biology and chemistry ought to precede or accompany agriculture. It is possible to teach agriculture and combine a few lessons in chemistry with it, but a good course in chemistry ought to be given in every high school.

If a school wishes to have a strong course in agriculture it might offer something like the following:

FIRST YEAR

English.
Botany. Give considerable attention to agricultural plants and plant diseases.
Algebra.
Physical geography (one-half year). Give special attention to soils and soil formation, and to the weather.
Zoölogy with special reference to insects and economic forms (one-half year).

SECOND YEAR

Latin, modern language, or elective.
History.
Algebra and geometry.
Chemistry. Give special attention to plant food and animal foods.

THIRD YEAR

Physics. Use as many illustrations from every-day life as possible.
Latin, modern language, or elective.
Geometry (one-half year). Business and farm arithmetic (one-half year).
Agriculture.

FOURTH YEAR

English.
Civics (one-half year).
Book-keeping and farm accounts (one-half year).
Commercial geography (one-half year).
Physiology of man and domestic animals (one-half year).
Agriculture.

SPECIAL STUDENTS

If the desire is to reach all the people, it will be necessary to consider those who cannot take an entire course. In any of the courses above suggested, such students can be provided for by allowing them to take such studies as they desire for one or two years, entering the regular classes so far as the hours of recitation will allow. In one year a student might take botany, chemistry, agriculture, and one other study. Such an opportunity will attract boys who would otherwise not come to the school.

CITY HIGH SCHOOLS

In city high schools the same work can be given. There are many city boys who would take the work for the general education it gives. Some want to be farmers. There is now little chance for them. Such boys could be placed on farms as hired men during the summer vacations. This will give them a splendid training whether they become farmers or not. There are also many farm boys attending every city school who should have an opportunity to study agriculture.

PREPARATION OF TEACHERS

It will take a few years before we will have a supply of teachers trained for the work. When prepared such teachers will be more expensive than other teachers, because they will be able to do so many other things.

In the meantime if our agricultural colleges will give summer work to teachers who are already teaching science and who have lived on farms,

very satisfactory teachers can be trained and, as with all subjects, many good teachers will work up the subjects themselves.

Finally let me urge you to have patience with the work. We must not expect any new science to be perfected at once. Teachers will never be prepared until they begin to teach the subject. We must develop the work gradually, as botany and physics have been developed, altho I think that we can move much more rapidly in the case of agriculture.

II. THE PLACE OF THE AGRICULTURAL HIGH SCHOOL IN THE SYSTEM OF PUBLIC EDUCATION

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We are told that the American ideal is a system of universal education, wherein every child, every boy and girl, rich and poor alike, shall have an opportunity to develop and train all his faculties. We have been led to believe that such an ideal and its actual working-out in practice are essential to the success and perpetuity of a republican form of government. Enlightenment, vocational efficiency, and civic responsibility are qualities of citizenship without which no republic can long endure. This being true, we undoubtedly should have a system of universal education, and, moreover, that system should provide instruction and training in all the essential qualities of citizenship. This does not mean, however, that all men are alike, nor that all can be trained in the same way; neither is the truth of the statement predicated on everybody's traveling the whole length of the educational trunk-line. On the contrary, it seems to me that we must start with a realization that all men are different; they have different talents, a different outlook upon the world, different ideals and ambitions; and in the very nature of things each must be provided with a choice of educational facilities, so far as this may be done without injustice to others. Two things seem to me to be essential in a system of universal public education, namely:

1. A standard graded course of instruction leading from the kindergarten thru the university to the learned, technical, and business professions; and

2. Adequate provision for those who cannot pursue the whole course, or who, for any reason whatever, have got out of the direct line of the standard course.

One trouble with our system of public education as it exists today is that we have provided excellent thru service, with almost perfect terminal facilities, without giving much consideration to the "way" passengers or to branch lines.

I wonder what would be thought of a trunk-line railroad from New York to Chicago, which ran only "limited" trains, carrying only thru equipment and making stops only at Philadelphia, Harrisburg, Pittsburg, and other main division points; which took no account of the local passengers nor

of those who might wish to go to Buffalo, Cleveland, or Cincinnati from some one of the division points—which ran no local trains and did not maintain any branch lines. But that is about the way we have been managing our school system. We have had splendid thru trains, with pretty fair day coaches for everybody, and Pullman cars for the well-to-do, but we have largely neglected the local service and the branch lines. This has not been much of a hardship on the first division, because a large percentage of the passengers go thru to the first division stop, but from that point onward the service is far from satisfactory. Nine-tenths of the passengers are local and many of them would like to take branch lines, if such there were, leading off from the first division stop or from intermediate points between that and the next division stop. Such passengers we regard as unfortunate, but we make no particular effort to provide accommodations for them. If they leave the limited at the first division stop they must take their own chances on getting a local on some other system, or must trek it for their destination. Those who remain on the limited with the expectation of getting off a few miles up the line, or of getting another train at some convenient junction, find to their dismay that the limited makes local stops for no one and it makes no connections. They must jump from the moving train and run their own risks. A few land on their feet and are able to maintain an upright position, but many come out of the adventure more or less crippled for life and find later that this handicap more than offsets any slight advantage they might have gained from their short ride on the second division.

We need not pursue the figure farther. It is not original with me except in some of its applications. In a somewhat different form it was used not long ago by one who was arguing against special schools of any kind. He contended that all would prefer to travel on the main line and that all should travel together, thus avoiding the danger of creating class distinctions and the expense of providing special equipment, which would all be very well, as stated above, if all were thru passengers and the thru trains could provide suitable accommodations for passengers of different tastes and qualifications. But there are always many local passengers and many requiring special accommodations which it is beyond the power of man to provide on a thru train and at the same time maintain thru-train schedules and quality of service.

All of which, being interpreted in terms appropriate to our public schools, means this: (1) That the work in our common schools—the elementary and grammar grades—might well be so "redirected" as to make fuller and freer use of local concrete material, thus increasing the efficiency of teaching-methods and bringing the pupils into closer and more sympathetic relations with their environment; (2) that our public high schools should introduce more required work of an educational character concerning our fundamental industries—agriculture, mechanic arts, and home-

making—and should provide optional courses leading directly to collegiate and professional courses in these subjects; and (3) that a limited number of special industrial vocational schools and courses should be provided for those who are not in a position to complete the regular high-school course, or who must content themselves with a high-school course leading to some chosen profession.

By this time you will have discovered that my conception of an agricultural high school is a specialized school and its function is to provide a somewhat local service which the regular high school does not and cannot provide in any general or adequate way.

I believe that secondary instruction in agriculture serves two main purposes—one primarily educational, the other primarily vocational. Both are educational, but one is education thru agriculture or by means of agriculture, while the other is education for agriculture and those engaged in it. Agriculture is much more than a vocational subject or an industrial subject. In one way or another it touches nearly every human interest and endeavor. In some of its aspects it is economic; in others social, æsthetic, scientific. In a broad way, then, studied with reference to its human interests, agriculture is a liberalizing subject, a cultural subject. Considered from this point of view, agriculture becomes to the country boy, and also to the city boy, one of the best possible means of disclosing human relationships, the functions of commercial, political, and social organizations, and the importance of scientific study and research. From this point of view, it should be studied in every public high school, by boys who are to become captains of industry, or leaders in finance, or professional men, as well as by the future owners and operators of farm homes and other agricultural enterprises.

But agriculture is also more than a subject of broad general interest. It has a much more intimate personal aspect to the boy who has made up his mind to become a farmer, or a fruit-grower, or a trucker. He wants to know the *how* of things as well as the *why* of them; he wants training in the practice and business operations of agriculture as well as the theory of it.

I recently heard a young agricultural-college graduate, who had been placed in charge of a farm, deplore the fact that he, and others like him, could go thru college and receive a bachelor's degree in agriculture without anywhere, either in high school or in college or on a farm, learning how to plow, or dig a ditch, or harness a horse, or milk a cow. Such things are not taught in public high schools; they are not considered to be an essential part of "education thru agriculture"; and, furthermore, the public high schools have neither facilities nor the men to teach such things in any effective way. Nor do the agricultural colleges generally afford training in the practice of agriculture. Their function is to train leaders in agricultural education and research, and they assume that the details of

practice have been mastered by the students before coming to college. But there is a best way to till the soil, grow crops, care for live stock, and manage the farm, which thousands of farm boys brought up on poorly managed, one-horse farms, never learn at home, and no city boy ever has an opportunity to learn. What should a system of universal education do for such boys? There are thousands of them and I doubt whether we can afford to ignore them in our scheme of public secondary education.

It was consideration for them that led to the establishment of the first agricultural high school in Minnesota twenty-two years ago—a school to which boys who had made up their minds to be farmers might *elect* to go for more thoro and effective instruction and training in agriculture than could be had in any public high school, and for more practical training than the agricultural colleges afforded.

And because this Minnesota school succeeded in its purpose, and hundreds of boys and girls completed its courses and went back to the farms, where formerly tens had completed the college courses and remained away from the farms—because this school succeeded, several others like it have been started in connection with agricultural colleges, and many that are similar in purpose have been started as independent institutions, so that now we have thirty Congressional District agricultural schools in Alabama, Georgia, and Virginia, five county agricultural schools in Wisconsin, and others in Maryland, Michigan, and Mississippi, and several state agricultural schools in undefined districts, as in California, New York, and Minnesota.

These schools have been established and maintained to supplement the work of the public high schools, on the one hand, and that of the agricultural colleges on the other. They have not been intended to take the place of either or to compete with either, but to occupy an intermediate field which neither has fully occupied—much less cultivated. They have been supplied with real farms and farm equipment, with animals, machinery, shops, and laboratories; and the more successful of them with faculties, not single inexperienced instructors, but *faculties* of trained experts—everything necessary to give effective instruction and training in the *business* and, to some extent, the *science* of agriculture.

The influence of such schools and their place in a system of public secondary education may be briefly summarized as follows:

1. To stimulate the general introduction of agriculture into the ordinary high schools and in a general way to set the pace for and give permanence to secondary education in agriculture.

2. To aid in the preparation of teachers for the rural schools. This is accomplished in a definite way in Wisconsin by connecting teachers' training schools with the county schools of agriculture.

3. To serve as vocational connecting schools between the public elementary schools and the agricultural colleges. In order to do this effectively, the standard courses of study for these schools should conform in a general way to that of the ordinary public

high schools of the state. These courses should include instruction in English, history, mathematics, chemistry, and botany, such as is generally given in good high schools.

4. To serve as schools to which boys who have chosen to become farmers may elect to go for more thoro and effective preparation for their life-work than the ordinary public high schools can give.

5. To relieve the agricultural colleges of much of the secondary and short-course work they are now compelled to do, to the detriment in many cases of their regular collegiate work and that of research in agriculture.

6. To serve the farming communities more intimately and sympathetically than the agricultural colleges can do and more effectively than the public high schools can do. This they can accomplish (*a*) by conducting short courses for adult farmers at points remote from the agricultural colleges: (*b*) by extension teaching in different parts of their respective districts; (*c*) by rendering the farmers expert assistance and advice; (*d*) by conducting demonstration experiments on their own farms and on those of leading farmers in their districts, and (*e*) by conferring with teachers in near-by public schools and assisting them in planning and conducting agricultural work.

7. To be most effective these special agricultural schools should be so limited in number that they will serve relatively large districts—ten or fifteen counties, depending upon the density of the rural population, the value of farm lands, and other local conditions. Experience thus far has shown that the county is too small a unit for the proper equipment and maintenance of such schools, and too small to supply a sufficient number of students. These schools should be large enough and have funds enough to maintain a relatively large faculty and an adequate modern equipment, so that their students will not only have offered to them a standard course of high-school grade, but will also have opportunity to specialize to some extent along different agricultural lines.

8. The courses in agriculture in the different schools may well be varied according to the predominant agricultural industries in different regions, and there should also be short practical courses for those who cannot complete the standard course.

9. Agricultural high schools, whether connected with colleges or maintained separately, should be kept strictly *secondary* in grade and there should be no pretence of giving collegiate instruction in such schools.

Briefly, then, the place of the agricultural high school is within, not without, our system of public education. It should be one of the important branches of the main line, making definite and close connections with the latter at the end of the grammar-school run, maintaining a good thru service with attractive and comfortable terminal facilities in the agricultural colleges, and providing adequate local accommodations, with a convenient schedule and safe and comfortable alighting places at the various agricultural stations. Such a branch service, when properly equipped and managed for all the important agricultural regions, would do much to increase the efficiency and happiness of those living in the open country. And when these producers of wealth and conservators of democratic institutions are happy, all the rest of us feel safe and comfortable.

III. HOW THE SCHOOLS AND THE UNITED STATES DEPARTMENT OF AGRICULTURE CAN CO-OPERATE

(*A Synopsis*)

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We have more than thirty million farm folks living on rather more than six million farms. In one or two generations these figures will have increased to fifty million farm farm folks living on ten million farms. The family farm in which the home and the farm business are a combined unit is our basic and most vital rural institution. There is an average of rather more than one school pupil from each farm.

The institution which is next above the family farm is the rural school. We have nearly three hundred thousand one-room rural schools, or practically one school to twenty farms. More than ten thousand one-room rural schools however, have been consolidated within the last fifteen years. Sometimes two schools have been brought together; in other cases three, four, five, six or more schools have been put under one roof. At least half of these ten thousand one-room schools have been combined into typical consolidated rural schools in which the limit of team haul gives a district four to seven miles across. Such a school owns half a dozen school wagons, each of which accommodates twenty or more pupils. Drivers employed at public expense gather the children together at the school in the morning and return them to their homes in the evening.

The typical consolidated rural school of the immediate future, accommodating an area of about twenty-five square miles, will have a five-room or six-room school building, a cottage for the principal, and a ten-acre school farm, including a five-acre combined campus and farm-stead, with playgrounds, orchard, garden and ornamental plantings, and an outer five acres devoted to plots of the field and other crops, which patrons of the school grow commercially.

The consolidated rural school in the open country will accommodate one hundred to two hundred farms, or an average of one hundred and fifty farms, which will send one hundred and fifty pupils to school. In round numbers, one hundred of these pupils will be in the first six year courses of the elementary school, thirty in the seventh and eighth years of the elementary school course, and twenty in the first and second high-school years. In the great agricultural regions the average county will so consolidate its one hundred and thirty-five one-room rural schools that it will have about twenty consolidated schools in the open country, and also five combined village and rural schools. Doubtless in many mountainous regions, in swampy areas, and even in sandy and forested areas, the little one-room school to which pupils walk will continue to be the rule. Even here in many cases two or more of these schools can be brought together, with more or less private and public team service, to transport the pupils to and from their homes in comfort.

All this means that we shall have in the rural communities larger schools which can take on more of institutional organization. There can be larger grounds, more equipment for teachers; and, most important of all, teachers who receive better remuneration, have longer tenure of office, and have the satisfaction of giving larger service within the school and to the community. These large units will make it possible to greatly increase the effectiveness of such outside help as may come from the county superintendent of schools, from the State department of education, from the agricultural college and experiment station, and from the United States Bureau of Education and the United States Department of Agriculture. If two-thirds of our rural schools were thus combined, we should have thirty thousand consolidated rural schools, with thirty thousand principals trained to teach agriculture and thirty thousand assistants trained to teach home economics.

A dozen or more states are developing large, highly equipped, usually separate, agricultural high schools adapted specifically to those farm youth, who, intending to return to the farm, desire a vocational closing course especially relating to the management of the farm or the farm home. These schools are especially adapted to articulate with the consolidated rural school and with the village schools. They can receive the students who have had the first two high-school years in the consolidated rural or village school, giving them a two-year course broadly combining the general, the scientific, and the vocational studies and returning them to the farm to become leaders or even teachers in the rural schools. A small proportion of these students, probably not more than ten per cent., will naturally go forward to the agricultural college and to the state normal school, many of them with a view to becoming teachers, editors, researchers, etc.

Many non-public academies and colleges will also establish courses of study to meet the requirements of students who may come to them for instruction preparatory to life on the farm. These institutions have an open and wide field in this line. There seems abundant warrant, however, for throwing out the caution to administrators of these schools that they should not undertake the organization of vocational courses relating to the industries without thoroughly investigating the cost. These courses are much more expensive than the general courses and should not be undertaken without assurance of adequate equipment and a group of special teachers each with his almost industrial equipment. Young men cannot afford to go to a boarding school to learn to farm from books. Vocational higher schools in agriculture should not be relatively so numerous that each may not have a sufficiently large equipment in technicians, lands, laboratories, practice shops, domestic animals, etc., that the instruction may be both strongly educational and highly inspirational. Because country people are isolated, they especially need that their school life be inspirational as well as informational.

One of the most encouraging signs of educational improvement is the rapidly developing feeling in our state normal schools that these institutions must at once become highly equipped to prepare teachers who can instruct in our local and secondary schools in the subjects of agriculture, the trades and industries, and home economics. By inspecting the wonderful equipment being developed at our state agricultural colleges, the officers of the normal schools are brought to a realization that they must become right arms to our state agricultural colleges in preparing teachers who can introduce these vital vocational subjects into the schools of our rural and non-agricultural communities. And the development of the state normal schools to prepare teachers qualified to instruct in agriculture, the trades and industries, and home-making, will forever sweep away the oft-made criticism that our normal schools are guiding our pupils away from the virile industries and from home-making.

One cannot visit the more highly equipped college of agriculture and the mechanic arts, as in Iowa, Wisconsin, Minnesota, Illinois, Michigan, and other states; or the mechanic arts high school of St. Paul, Minnesota; Menomonie, Wisconsin; Springfield, Massachusetts; Washington, D.C.; or Columbus, Georgia; or the agricultural high school at St. Anthony Park and Crookston, Minnesota, and at Lincoln, Nebraska, without realizing that this vocational work in the manual industries and in home economics is a powerful addition to our educational system.

The United States government and the state governments together have spent approximately fifty million dollars in agricultural research. The Federal and state governments are probably spending nearly fifteen million dollars annually on research and education in relation to agriculture, and conservative estimates place the economic return in increased food products at hundreds of millions annually. Were it not for this, the prices of food would be even higher than now, and it is believed that making agricultural education general, thus decreasing the cost of production, is necessary to keep the cost of food within bounds. On the other hand, education in the trades and industries and in home economics is necessary to enable the workers in the non-agricultural indus-

tries to so increase their production that they will be able to pay the higher cost of food, and will know how best to utilize the foods in the era already begun of permanently higher-priced farm products.

The purpose of the above analysis of the situation is to give a viewpoint of the complex relationship of the United States Department of Agriculture and the other institutions which are to carry the knowledge of agriculture and home economics to more than six million pupils. It is clear that a body of research knowledge which has cost the national and state governments fifty millions to obtain—and I might add that other governments have spent an aggregate even larger—and the new knowledge that will result from the hundreds of millions which in the near-by decades the world will have spent in agricultural research, will demand entrance into the closing school courses of all who are to manage farms and make farm homes. A share of this knowledge will be demanded by pupils whether they leave school at the end of the elementary course, or at some point in the high school, or after four years in college. It does not require prophetic vision to see that we shall have tens of thousands of consolidated rural schools; efficient courses in agriculture in agricultural high schools; and splendid collegiate instruction in agriculture in many colleges, as well as collegiate extension instruction in many farms and extension work of the United States Department of Agriculture for the adult farming population of the country. The administrators and workers in the departments of agriculture, experiment stations, and colleges of agriculture are all a unit in their desire to help place in pedagogical form the vast stores of old and new knowledge which they are accumulating into a most wonderful literature, and to help organize schools which will reach all the millions of farm youths and will broaden out the courses of study so that a new vitality will be given to one entire school system.

Under the initiative of Congress, the Department of Agriculture is able to investigate many of the problems both general and local, economic and educational, with which the farmers are concerned. I cannot do better than to briefly review what the bureaus of the department are already doing. And I should preface what I may say with the statement that the Bureau of Education of the Department of the Interior is also doing great service in its publications regarding the organization of instruction in agriculture. Following the spirit which prompted the Congress of 1862 to inaugurate agricultural colleges and experiment stations, and in the same year to pass the basic law under which the United States Department of Agriculture is broadly organized, the Department of Agriculture is constantly breaking new ground. In the language of ex-President Roosevelt, it is also "striving to co-ordinate its work with the agricultural departments of the several states and so far as its own work is educational to co-ordinate it with the work of other educational authorities."

The Office of Experiment Stations is the agency thru which the secretary of agriculture deals with matters concerning agricultural education. In that office one division deals with education in school courses, a second deals with college extension work. This bureau is doing much to help outline courses of study both in agriculture and home economics. Its publications are great aids to teachers and to authors of textbooks for class and practice work in agriculture and home economics.

There is much departmental extension work done by the various bureaus, notably by the Bureau of Plant Industry. Dr. S. A. Knapp has in hand that most wonderful extension work, largely along the line of demonstration farming in the South.

The Bureau of Plant Industry has given much assistance in Washington and elsewhere to those who have been organizing school-garden instruction in cities. It has published farmers' bulletins on schools gardens, the decoration of home grounds, and the propagation of plants, and very many of its bulletins are adapted to use as reference books and even almost as textbooks in schools. Thru that bureau, often with the co-operation of congressmen, seeds are sent to schools and to school-garden improvement associations.

The agents of the weather bureau in many cities are not only publishing the local weather reports, but in numerous institutions and colleges these men give lectures on meteorology. They are working out the pedagogy of meteorology, and the chief of this bureau has recently published a textbook along this line. The bureau furnishes daily weather charts to many schools.

The forest service is working out the pedagogies of forestry in a number of ways. Its simplified publications are becoming a basis for textbook material in consolidated rural schools and in secondary schools as well as in colleges. This bureau is especially active in giving addresses before teachers' institutes, normals, and other gatherings of teachers in the various states. It has prepared various maps for teachers, and is working out methods of giving instruction in nature-study. It has given assistance to schools in connection with Arbor Day, and has aided in making plans of tree plantations on school grounds.

Many publications of the Bureau of Chemistry and of the division of foods of the Office of Experiment Stations are used in connection with instruction in home economics and in the preparation of textbooks on cookery, household sanitation, and other subjects.

The Bureau of Soils greatly aids in the movement for the extension of agricultural instruction, and furnishes soil-maps for the schools of the locality of which these maps are made. It sometimes analyzes soil samples and has co-operated with some of the agricultural colleges in establishing soil professorships, which when established are cared for by these institutions. This bureau is especially anxious to assist in selecting farms for agricultural high schools and consolidated rural schools, that they may have soils typical of the region which the school serves and on which are uniform tracts available for plot experiments.

The Bureau of Statistics in co-operation with the assistant secretary of agriculture has made a careful statistical study of the organization, the cost, and the effectiveness of the different forms of consolidated rural schools; and especially the relative value of this form of school in instruction in agriculture and home economics.

The Office of Road Inquiry provides many lectures, assists in getting together material for textbooks, publishes literature for use of schools, and assists in every way possible in introducing the subject of road-engineering into the schools of engineering and schools of agriculture.

The Bureau of Entomology has built up a wonderful body of knowledge of beneficial and injurious insects and is assisting in putting it into pedagogical form. The Bureau of the Biological Survey is doing a similar service regarding the native wild animals and birds, and is especially active in introducing the subjects of game animals and game birds into the public schools.

The Federal Government, under the Nelson Act, has recently given each of the state colleges of agriculture and mechanic arts an annual grant of twenty-five thousand dollars, which they may use in preparing teachers to give instruction in agriculture, trades and industries, and home economics. Some of the administrators of the state normal schools have been wise enough to secure funds from their state legislators to enable them to join the state colleges of agriculture and mechanic arts in preparing vocational teachers along these lines.

President Seerley of the Iowa State Teachers' College has called attention to the fact that if the sixty state colleges of agriculture, and the one hundred and thirty-five state normal schools, each and all, were equipped to prepare teachers competent to give instruction in agriculture they would not be able to prepare enough to give instruction in vocational lines in the nearly three hundred thousand rural schools in this country.

If two hundred thousand or two-thirds of the rural schools were consolidated so that only one-third of the teachers would need to be trained to teach agriculture and home economics, we would still require teachers for the one hundred thousand remaining district rural schools, and two teachers each for the thirty thousand consolidated rural schools.

Even under this arrangement the secondary schools would need to co-operate with the state agricultural colleges and normal schools in preparing teachers for the rural schools, especially for the remaining one-room schools. There is need, therefore, that vocational education be developed in separate agricultural high schools and even in the city high schools. Taken as a whole, the normal schools are now but poorly meeting the situation by way of helping to co-operate with the national department of agriculture in preparing teachers to carry this new body of knowledge to the people. I am not so sure but that the state colleges of agriculture are even more blamable, because with the funds provided for them by the Federal Government, under the Nelson Act, they are not assuming that leadership which has been thrust into their hands by Congress. Here and there a public high school is making a praiseworthy effort to get into the co-operative movement and help to bring agricultural knowledge and training to the country people. Of the approximately one thousand existing consolidated rural schools in this country, a small number are placing agricultural instruction in the classroom and the school laboratory. Numerous teachers in the one-room schools, especially if they have had training in an agricultural college or state normal school with an agricultural department, in an agricultural high school, or even in the local schools which give instruction in agriculture, are successfully introducing this subject into their schools. Indeed, some teachers are securing the best agricultural textbooks, bulletins, and literature and are meeting with success in teaching agriculture though they themselves have had no school training along this line. In a few places an itinerant teacher, employed by the county, goes about from school to school and introduces something of instruction in agriculture to the district rural school. Not a few of our state legislatures are taking part in the new movement to bring about a general co-operation in vocational training for farmers. The efforts to build up educational departments in our agricultural colleges and agricultural departments in our state normal schools are meeting with ready response. Some of the legislatures have made it compulsory to give instruction in agriculture in the rural schools, though this plan has not met with universal approval.

What has been said before, regarding co-operation in developing agricultural education, should be repeated almost in detail concerning education in home economics for the girls of the farm. There is the same need in, and advantage of, providing school courses for the non-agricultural trades and industries for the youths in our non-agricultural communities. I believe that we all are ready to enlist our national and state departments in the great movement to carry this new body of technical knowledge to all the youth of the land, that all who farm, all who work in the shop, and all who manage our homes, shall have the opportunity to gain that efficiency in doing things which comes from technical school-training in the industries as well as in the professions.

That this co-operative project may go forward in every state, in every institution, and in every neighborhood which is needy and able to take initiative and successfully push aside the too-conservative influence of the older organization, leadership should not be too aggressive and the changes should be evolutionary rather than revolutionary. Here, as elsewhere, the reactionary should stop to carefully consider before he takes the responsibility of arresting progress. There is at stake not merely ten million farm youths, and nearly double that number of youths living in non-agricultural communities, but there is at stake the interest of all the toiling millions; and since this project will so greatly increase production, all classes, even the wealthy, are vastly interested.. The nation is interested also in improving the civilization of the open county and in the production of fine citizenship and of virile folks for both rural and city leadership.

To so conduct the education of those who are to manage all our six or more million farms and farm homes that they will be able successfully to compete with the highly organized large commercial farm, this vocational education must mainly be done in the local school. Fortunately the newly devised consolidated rural schools, as those in Maryland, Ohio, Indiana, Florida, and other states, many of which have employed effi-

cient teachers of agriculture and home economics, have clearly proved that this form of school can do this work and that it is adapted to multiplication so as to cover at least all well-to-do farm regions. The consolidated rural school is the greatest educational invention of our generation.

Once vocational education is efficiently taught in the elementary schools, including the first and second years of high schools, within driving distance of the farms of America, there will be relatively less need of extension and correspondence courses; even these forms of instruction can be largely connected with and organized about the consolidated rural school. Let us all, farmers, home-makers, educators, legislators, publicists, and citizens, whether our field be local, city, or national, co-operate in promoting vocational education, that all classes may be prepared for high personal efficiency in their fields of life work.

The outflow of co-operative effort must be reciprocal. The rural community especially should energetically seek to co-operate with state and national departments and institutions, and the states should investigate the on-coming movement of scientific and vocational knowledge, and the advances in the organization of affairs generally that they may not be made less important by allowing the vital work of education and government to be too much centralized in the national government. Citizens, publicists, and legislators should not wait for schoolmen to take the lead in re-organizing and broadening out of schools. Teachers have come to acknowledge that material reforms in schools rarely originate from teachers. They are rather isolated from business affairs and seem unable to effect changes in schools which require additional funds. But too much emphasis cannot be given the fact that the teachers should make unusual efforts to promote movements to improve the vocational side of our education. They should absolve themselves of any fear that education in agriculture, the trades and industries, and in home economics is not real education. They should plan to add courses of study in all schools where these vocational subjects are needed. They can do a large service by promoting rural schools, and by encouraging the states, cities, and rural communities to provide funds for instruction in the manual vocations, and in home economics in the secondary and even in the primary schools of all communities.

Young men and women partially trained for teaching, especially if they have proven ability to teach, and a grain of missionary zeal for service, should investigate the rich life which service in education in agriculture, the trades and industries and home economics has to offer. The salary, the growth of one's self, and the opportunity for real service sum up larger than service in most lines of teaching. The principal of a consolidated rural school who rarely measures up to his opportunities has more vital functions than the average college professor.

DISCUSSION

Professor Dexter, of Porto Rico.—Our problem is in some respects a unique one. We have in the Island about a million people who are engaged entirely in agriculture; but these people have the mistaken idea that their children should not till the soil, and in order to get them to send their children to school, we are obliged not to emphasize such work as agriculture; but we have introduced it into the high schools very generally and have a special supervisor for the elementary school, so that about twenty-eight thousand children are getting more or less instruction in agriculture. In certain cities a type of school-garden work is being carried on which seems to be very helpful.

David Snedden, commissioner of education for Massachusetts, Boston, Mass.—One of the first things to be definitely determined is how many hours out of approximately four thousand, which the child spends in the high school, should be devoted to classroom work in agriculture, to library work in agriculture, to laboratory work in agriculture, to home study in agriculture; how many hours should be given to so-called lib-

eral studies. In other words, before anything very definite can be accomplished, it will be necessary to decide the relative importance of these subjects and whether or not all children should be required to devote the same number of hours.

L. S. INGRAHAM, principal of the Sparta Agricultural and Industrial Institute, Sparta, Ga.—I am from that portion of country where cotton is king, and I represent a class of people that do not take favorably to agricultural education from the fact that a large portion of colored people think they have done enough field labor. When I was a boy, the Yankee came south and sang a song that I shall never forget. It was, "By and by, little children, you are free. There's no more Monday mornings; there's no more going to the wash-pot."

This brought to the minds of the newly emancipated that freedom meant a cessation from manual labor. Another thing that unfitted him for his new condition was the promise of forty acres and a mule. While he has persisted in tilling his crop with the one mule, the South is beginning to wake up. The two-horse plow is being rapidly introduced, whereas thirty years ago, if a man was seen ploughing with two horses, he would have been considered a fool.

I am planning to erect an agricultural and industrial school at Sparta, Ga., where I shall teach the boys and girls to do things in a practical way. I was at Rome, Ga., for ten years, where I taught agriculture by theory, but now I shall teach by practice.

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